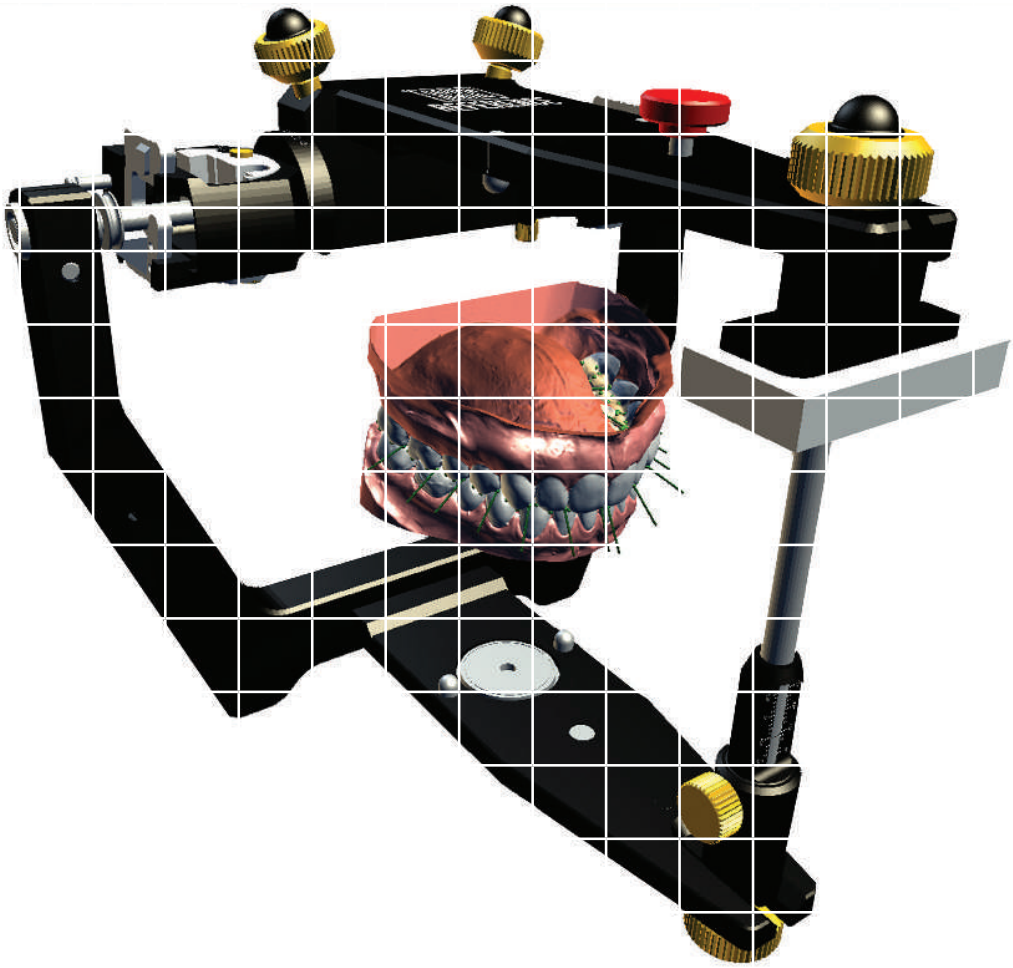

valid from 01. April 2014

products 2014

GAMMA DENTAL®

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Fax:+43-2243-34140-90
mail: office@gammadental.com
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1/1 Information about GAMMA

Quality means when the customer returns and the product doesn't!!

For structuring and managing a company with all its accompanying requirements it is ever more important to realize visions, but even so it is necessary to have new and further developed practical products.

We are market leader in the field of functional diagnostics and functional therapy and that obliges us to constantly work on the advancement of our products.
We invest in research and development in order to have products which are latest state of the art and can be used in daily work of dental office or laboratory easily and straightforward.

With the further development of our CADIAS program we want to provide competent and newest technology, so that customers can use a well proven diagnostic system also in a 3D version.

Our programs are designed to meet the requirement of the practical dental work. Of course they support the acquainted way of working, offer exact and consistent results in all steps of the complete treatment process and thus facilitate highest quality and productivity.

Your GAMMA Team

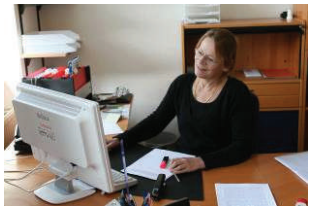
1/2 Information about GAMMA

GAMMA – introducing the team

GAMMA is not only distinguishable by its ideas, products and services, but even more so by its team of enthusiastic co-workers. Cooperation among the individual areas of expertise is absolutely essential for the smooth functioning of our client-oriented concept.

According to the structure of the company each staff member has been allocated responsibilities and to make it easier for you to find immediately the right person in charge and to provide you with an overview of the corporate structure, we would like to introduce our team:

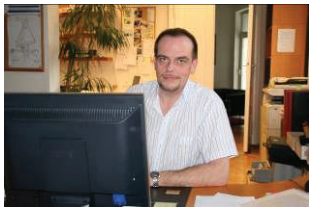
Marketing, Sales



Brigitta Lauteren is responsible for the implementation of marketing activities, coordination of sales and realization of internal processes.

+43-2243-34140 Ext.: -17 b.lauteren@gammadental.com

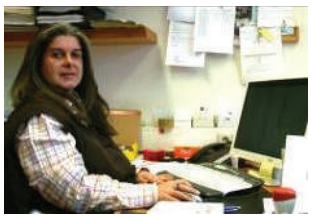
Production, Purchasing, Service, Sales:



Friedrich Engleithner is responsible for purchasing, production and service. His job is to guarantee the quality of the products delivered, and he is your competent contact partner for any technical questions related to the Reference system and CADIAX appliances.

+43 2243 34140 Ext.: -13 f.engleithner@gammadental.com

Sales support, Accounting:



Doris Plener makes sure that everything runs smoothly, from the original order to delivery. She coordinates the communication within the company and processes incoming customer inquiries, making sure that they end up at the appropriate place.

+43 2243 34140 Ext.: - 12 d.plener@gammadental.com

Software, Hotline, Sales :

Michael Vavryn is your first contact for all issues regarding our products and the Gamma Dental Software®
He is in particular qualified to find the best solution to software questions of our customers.

+43 (0)2243 34140 DW: - 11 m.vavryn@gammadental.com

1/3 Information about GAMMA

Quality Control, Product Authorization, Development:

Christian Schicho maintains our quality management system, ranging from all approvals for our products to the strict compliance with all normative requirements.

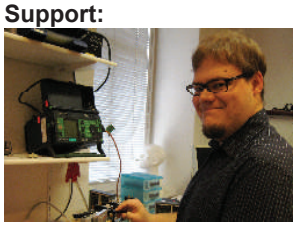
+43 2243 34140 Ext.: - 21 c.schicho@gammadental.com

Software development:

Thomas Haberl coordinates the development of our software products.
He is our specialist for all issues related to the GAMMA Dental Software.

+43 (0)2243 34140 DW: - 10 t.haberl@gammadental.com

Support:



Marco Filippovits works in our production departement and supports the internal and external production and assembling processes.

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1/4 Information about GAMMA

Important Information

Validity	With the publication of this catalogue, all previously published catalogues and pricelists become invalid.
Product Information	The product information contained in this catalogue has been limited to important characteristics and/or directions for use. Detailed descriptions are available upon request. This catalogue is not a substitute for the detailed descriptions and directions which are included in the delivery packages.
Order Information	If not otherwise indicated, the article numbers always refer to one (1) unit. Any deviations from “1 unit” (e.g., package contents or sets, units, pair, 10 per package, etc.,) are marked accordingly.
Orders	To be valid, all orders must be made in writing. Please always use the GAMMA order form. To avoid incorrect deliveries, we recommend to always include the article number, the number of units and the description.
Transport	Within Europe, all goods are sent by DPD Transport Company. Any other means of transport, if desired must be indicated accordingly on the order form.
Transport Costs	Transport costs are borne by the buyer and will be automatically included in the bill.
Terms of delivery	Unless otherwise agreed, the term of delivery is 10 workdays after reception of the written order. If the product is not available within this appointed time, the customer will be informed accordingly about the expected date of delivery. In case of collective (group) orders, GAMMA reserves the right to carry out part-deliveries.
General Conditions	Our general business conditions are valid for all business transactions between GAMMA and its customers. This is especially applicable for all orders, deliveries, installations, billings and services performed. Any deviation from these business conditions must be in written form. You will find the general business conditions for the GAMMA Medizinisch Wissenschaftl. Fortbildungs-GmbH at the end of this catalogue.
Replacement Parts	In this catalogue only those spare parts are listed for which, according to our experience, there is a regular demand for replacement Please contact your GAMMA contact partner with any questions regarding other replacement parts.
Prices	All prices are listed in Euros, ex-warehouse Klosterneuburg. The applicable sales taxes will be added to the bill. Prices for installation and training are not included.
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1/5 Information about GAMMA

Suppliers, Partners and Dealers

GAMMA products are available throughout the world. The market for “occlusion products” is growing steadily, and we are constantly working to increase the number of competent partners for our products and ideas.

Bezugsquellen, Partner und Händler

GAMMA Produkte können weltweit bei folgenden Vertriebspartner bezogen werden:

Austria:

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eMail: mvp@maximum.su

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Ukraine
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Beijing Fineness Medical New.Tech Co., Ldt.
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100039 Beijing, China
Telefon: 0086-10-88 61 26 00
Telefax: 0086-10-88 61 26 90
eMail: sales@bjfic.com
Internet : www.bjfic.com

Japan:

HAKUSUI Trading Co., Ldt.
1-15, Niitaka 1-Chome
Yodogawa-Ku
532-0033 Osaka, Japan
Tel: +81 (0)66 396 4400
Fax: +81 (0)66 396 4457
eMail: hakusui@hakusui-trading.co.jp
Internet : www.hakusui-trading.co.jp

U.S.A.:

Whip Mix Corporation
1730 East Prospect Road, Suite 101
CO 80525 Fort Collins
USA
Tel: 001-970 221 7051
Tollfree: 800-201-7286
Fax: 001-970-221-7003 (6075)
Internet: www.whipmix.com

1/6 Information about GAMMA

Up-to-date online information: WWW.GAMMADENTAL.COM

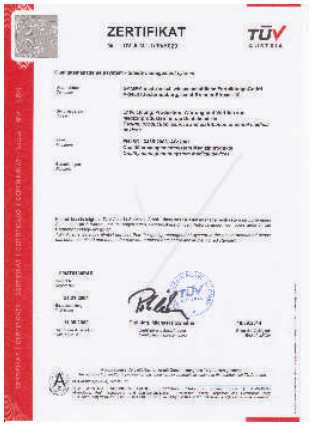
Through the Internet, Gamma offers continuous, current information regarding product innovations, new software versions, courses, exhibitions and other interesting topics.

In addition, the site offers technical information, technical support, and downloadable handbooks.

Quality Management- management by and for the team

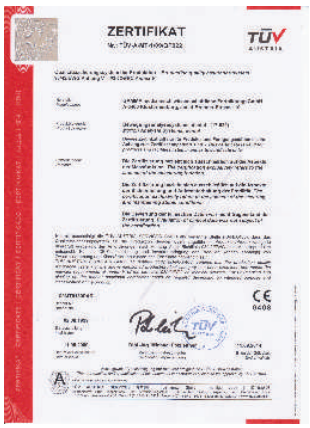
Gamma's quality management team determines the important procedures and processes of our company. We don't just issue dictates; permanent self-analysis and constant improvements in our products are always in the foreground of our cooperative efforts. Our most important goal:

*We want to offer tools for functional dentistry, perfectly suited to **your** dental practice.*



TÜV ÖSTERREICH ZERTIFIZIERT
EN ISO 13485:2003
Zert.Nr.: E029

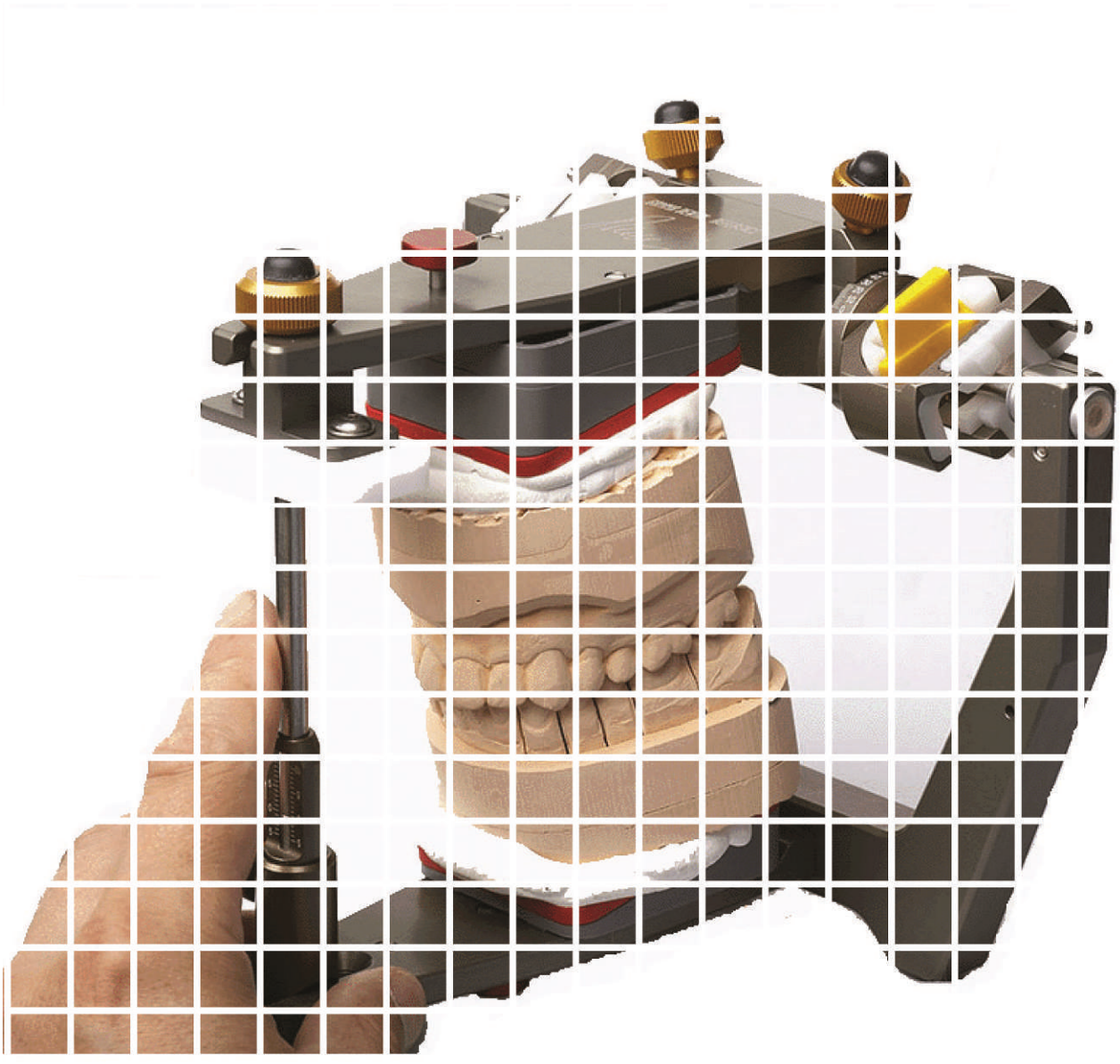
Quality management standard for manufacturers of medical products



TÜV ÖSTERREICH ZERTIFIZIERT
RL 93/42/EWG, Anh. V
Zert.Nr.: QP022R1

European Union directives for medical products

2/1 Articulator & Face-bow



The Reference articulator system

The continuous developments in modern dentistry make ever greater demands on articulator systems. Their everyday application requires the highest precision, compatibility with other articulators and maximum flexibility. The increasing amount of cases requiring interdisciplinary therapeutic procedures calls for a system which can provide a standard basis for intercommunication. The development of the Reference system made a tool available, which provides solution-oriented procedures for the simple standard case, as well as for the complex "full mouth" reconstruction.

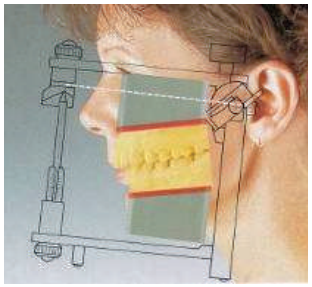
- Articulator/Face-bow system for arbitrary or exact mounting, relative to the hinge axis
- Synchronic calibration of articulators, with and without split-system
- An upgradeable articulator, from the simple occludator to the fully adjustable, all-purpose device
- Integrated magnet retention system
- Avoids problems caused by cast expansion, by means of block mounting
- Condylar position measurement (CPM), condylar position variance (CPV), measures and sets the occlusal plane, anterior tooth diagnostics
- Precast incisal table with various slopes up to a comfortable sequential table for wax-up of sequential occlusion
- Upgradeable face-bows for electronic recording of the mandibular joint with CADIAX®
- Designed by practicians for the dental practice and the lab
- Designed by instructors for teaching and research

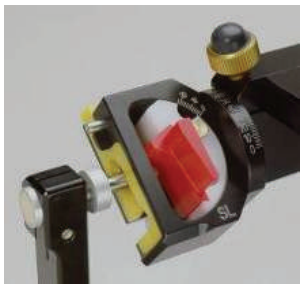
Reference SL – from centric surety to ex-centric perfection

The unique construction of the condylar housing in Prof. R. Slavicek's Reference SL articulator solves this problem in a special way: not the condyles, but rather the axes, adapted from the hinge axis, glide on sagittal and transverse inserts, as lightly and easily as if on runners.

For the practice: Ideal for the everyday average patient: full dentures, part dentures, implants, full-mouth rehabilitations, functional diagnostics, goal-oriented initial therapy, orthodontics, oro-facial surgery.

For the lab: They are all exactly the same. Safe, easy to handle, and multifunctional. Constantly upgradeable.





06-231380 Reference SL Articulator

2/3 Articulator & Face-bow

Components and spare parts:

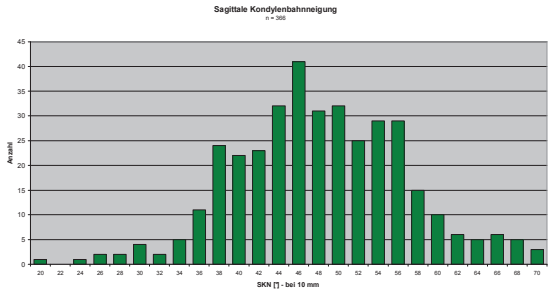
06-231347	Centric locks with setting rings, white (pair) (for Reference SL up to serial no. 06xxxx),
06-231387	Centric locks , white , pair (for Reference SL from serial no. 07xxxx)
06-231388	distance ring (for Reference SL from serial no. 07xxxx)
06-231382	SL centric O-rings, Ø 20mm / 2mm, red (pair)
06-231303	SL index pin
06-231383	SL retention magnet (1 pc.)
06-231384	Magnet removal pin (1 pc.)
06-231385	Reference SL posterior support pin
06-231912	Ball-shaped allen key 2.5 mm
06-231308	SL Incisal pin unit
06-231307	SL Incisal pin
06-218180	SL Incisal pin height-adjustable

The Reference SL provides the guidance reliability of a Non-Arcon, without losing the didactic and dynamic-geometric advantages of the Arcon construction.

The user can see the guidance units and check the contact on the guide elements, without needing to perform any acrobatics to control the unit.

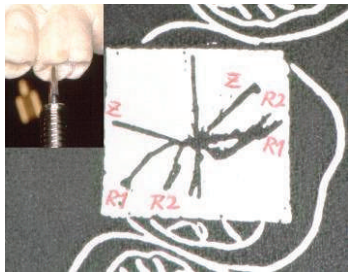
Reference – a practical all-rounder par excellence

The guidance elements are easily exchangeable. The user has any number of options, up to and including individually milled inserts. The articulator can be easily and effortlessly adjusted to the individual movement tracks.



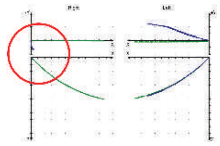
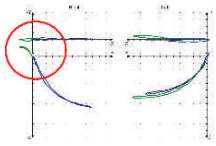
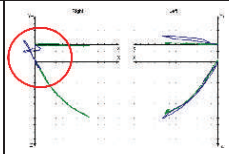
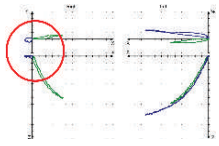
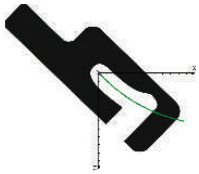
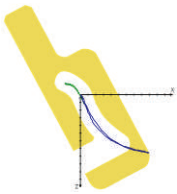
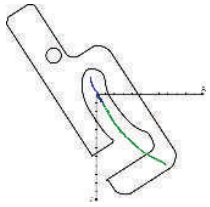
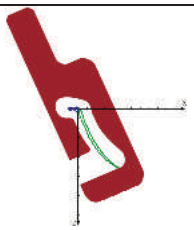
The statistics above, displaying the distribution of condylar guide inclination and compiled from registrations of over 300 patients, demonstrate the necessity of individual eccentric articulator programming.

An additional evaluation shows that the movement patterns of a large number of the patients indicate therapy-relevant retrusive movements. The SL articulator shows the differences in the formation of the occlusal surfaces.



Cusp tracks on the occlusal table showing different retrusive characteristics (Z=none, R1=surtrusive, R2=detrusive)

2/4 Articulator & Face-bow

	Condylogram w/no working side retrusion	*Condylogram w/working side retrusion*	*Condylogram w/ working side surtrusion*	*Using a detrusion guide element*
Patient:				
Articulator:				

The SL articulator is ideally suited for displaying most mandibular movement patterns. The advantage: no time-wasting “screwing” and “adjusting”, just simply click in the guide .

06-231310	**Program Set SL** 26-piece in color-coded, transparent box, including 4 SCI inserts + 4 TCI inserts + 5 protrusion stops.		
	Component and replacement parts (pair):		
06-231321	TCI – insert black		
06-231322	TCI – insert white *		
06-231323	TCI – insert yellow		
06-231324	TCI – insert red		
06-231325	TCI – insert blue		
		06-231341	Protr.- Stop yellow 1 mm
06-231331	SCI – insert white *	06-231342	Protr.- Stop red 2 mm
06-231332	SCI – insert yellow	06-231343	Protr.- Stop blue 3 mm
06-231333	SCI – insert red	06-231344	Protr.- Stop green 4 mm
06-231334	SCI – insert blue	06-231345	Protr.- Stop black 5 mm
06-231335	SCI – insert black	06-231340	Protr.- Stop Set * 0,5/1,5/2,5mm (special part)

*standard equipment for articulator, not included in program set

Reference – Mounting system with magnetic retention

The distance blocks are held in the articulator through magnetic retention. The retaining magnet is built into the articulator, so that the full height of the unit can be utilized, while maintaining even traction.

This minimizes the disturbing influences of cast expansion during the hardening process. Different heights and slopes allow for optimal use.

The red mounting plates are screwed, removable, into the distance blocks.

If the block is unscrewed from the model, it leaves a print in the cast, so that an identical block can be screwed in, if repositioning is necessary. During active treatment, the distance block should not be unscrewed.

2/5 Articulator & Face-bow

06-231550	Mounting plates, 50/pkg., including nuts
06-231551	Nuts, 50 pcs.
06-231510	Distance blocks, horizontal 1 (standard)*
06-231511	Distance blocks, horizontal 2 (+8mm)*
06-231512	Distance blocks, horizontal 3 (+16mm)*
06-231520	Distance blocks, slanted A (standard)*
06-231521	Distance blocks, slanted B (+8mm)*
06-231522	Distance blocks, slanted C (+16mm)*
06-231525	Distance blocks, Set (1 pair of each type)
06-231516	Lens head screw for distance blocks 1 + A (10 pcs)
06-231517	Cylinder head screw for distance blocks 2,3,B,C (10 pcs)
06-231518	Retention disc (10 pcs)

* prices and delivery apply to 2 blocks per package

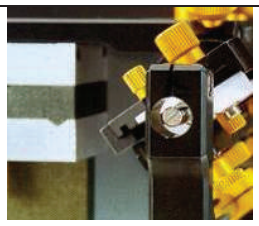
Reference – synchronic calibration without compromises

Tolerance can regularly be checked with the calibration key.

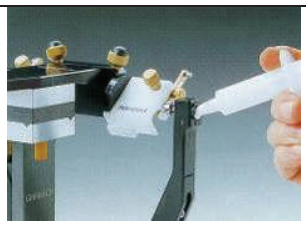
This unit synchronizes all Reference articulators (types A, I, and SL) over the axes, in the range from +/- 10 µm receptors exactly. So, everyone involved is working with identical machines, making it possible to exchange models and guarantee real comparisons.

The calibration key is also necessary for setting the 0-point when using the CPM and CPV applications.

In the dental practice or lab, the articulator can be newly adjusted and/or readjusted over the horizontally arranged axes:



rearrange the axes with the calibration key



casting the readjusted articulator axes

06-231900	**Reference Calibration Key**
06-231349	SL Adjustment set 1 for Reference SL up to serial no. 06xxxx
06-231386	SL Adjustment set 2 for Reference SL from serial no. 07xxxx
06-231349A	Articulator Axes with O-rings (pair)
06-231349H	Casings (pair)
05-001J	Adjustment for Reference SL articulator (device must be sent to the factory in Klosterneuburg – price excl. transport costs)

All components are equally axis oriented. Then the models can be transferred from one articulator to another without second thoughts.

2/6 Articulator & Face-bow

Reference – Standard incisal tables

Standard incisal guidance tables from flat to 55 degrees; centric adjustable, mounted on self-centering base.

The flat plate was designed for lower jaw mounting and the preparation of individual autopolymeric anterior guides. The 30-, 40- and 55 degree plates are equipped with 5 degree steeper protrusive inclinations.

With periodic gradation, adapted from the natural front situation.

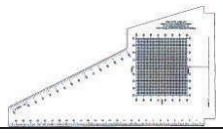
06-231720	Standard incisal table, flat
06-231723	Standard incisal table, 30degrees
06-231724	Standard incisal table, 40degrees
06-231725	Standard incisal table, 55 degrees
06-231721	Standard incisal table attachment, flat

Reference – individual anterior guidance unit

Two-stage anterior guidance in one purely protrusive part (with track grooves), in three variations; straight, 1mm and 2mm curved course of the S2 distance, with 14 degree angle of inclination.

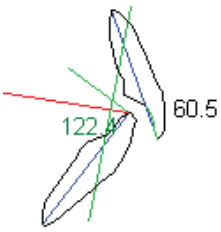
The two pins are plugged into separate jacks in the articulator, and are individually adjustable to zero position. The complete unit as shown, with 3 exchangeable protrusion inserts.

Adjustable, protrusive from 0-80 degrees, lateral from 20-65 degrees.



06-231750	Anterior guidance unit with double-pin for protrusion/laterotrusion
04-000004	Weber's 3D measuring template for metric measurement of cusp coordinates directly in the Reference SL articulator.

Reference – Anterior tooth diagnostics



Anterior tooth shaper: A container for hard-silicone, aligned relative to the reference plane, to take front tooth impressions in the articulator. The hard putty can be cut into sections and the palatal surfaces can be measured from the profile. These values serve for evaluating the relation between anterior tooth guidance-joint guidance-occlusal plane in functional diagnostics, as well as for the articulator programming in reconstruction and additionally for checking the tooth position and functional surface in orthodontics.

06-231800	Anterior tooth shaper

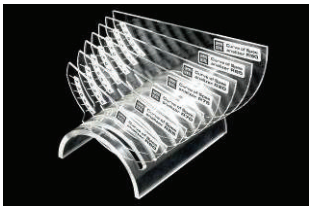
The ideal supplement to the CADIAS cephalometric program in Gamma Dental Software®.

2/7 Articulator & Face-bow

Reference – Compensation Curve Analyzer

Curve of Spee Analyzer for SL-Articulator
7 transparent templates with integrated curve radius in steps of 5 mm from R60-R90.

With the help of those parts it is possible to measure or reconstruct the curve of Spee



04-000019	Curve of Spee Analyzer for SL-Articulator 7 transparent plates with integrated curve radius in steps of 5mm from R60-R90 (pedestal not included)

Brux checker

Evaluation of grinding patterns during sleep bruxism according to Prof. Sato. The foil registers bruxism by abrasion of the foil colour.

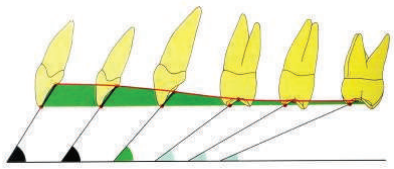
Incisors canine premolar guiding type

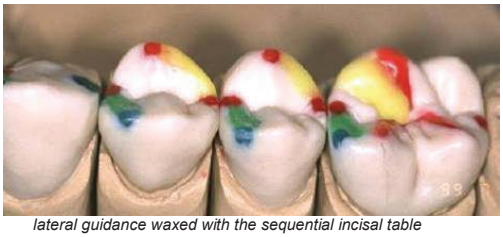
Canine guide + mediotrusive contact type

04-000050	Brux checker foil (10 foils)
04-000055	Occlusogram wax, for use in dental laboratory

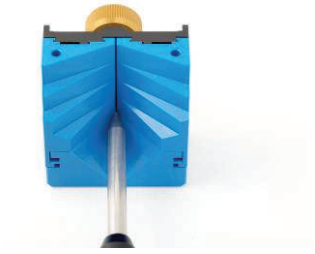
Reference – simple conversion to sequential occlusion

Based on its flexible concept of using exchangeable guidance tables in various gradations, the sequential incisal table is geometrically and didactically easily comprehensible and allows to define occlusion concepts by predetermining an angle of disocclusion. The sequential incisal table is extremely simple and easy to use, both in its diagnostic and technical wax-up applications. The fan-shaped guide surfaces of the table allow for direct assignment to a tooth and a simple implementation of the natural sequential occlusion concept.





lateral guidance waxed with the sequential incisal table



The reconstructive wax-up concept is determined by selecting the individual elements. Depending on which occlusal surface (tooth) is being worked on, the table is set to the corresponding mark found on the side of the base plate, by sliding forward or backwards, respectively.

2/8 Articulator & Face-bow

Guidelines are provided by a program, which processes the inclination of the joint track (CADIAX®) to the axis-orbital plane, as well as the selected Bennett element as parameters in the 2-dimensional table.

The CADIAX® system calculates the values automatically!

40° (Protrusiv)
51° (Tooth 3)
41° (Tooth 4)
33° (Tooth 5)
25° (Tooth 6)

44° (Protrusiv)
55° (Tooth 3)
44° (Tooth 4)
37° (Tooth 5)
29° (Tooth 6)

47° (Protrusiv)
58° (Tooth 3)
47° (Tooth 4)
40° (Tooth 5)
33° (Tooth 6)

54° (Protrusiv)
65° (Tooth 3)
52° (Tooth 4)
46° (Tooth 5)
39° (Tooth 6)

04-000013	**Sequence Incisal Table Set***
04-000013T	Base adapter
04-000013B	Guidance blocks, 3-piece, blue
04-000013G	Guidance blocks, 3-piece, green
04-000013O	Guidance blocks 3-piece, orange
04-000013Y	Guidance blocks, 3-piece, yellow*

In asymmetric cases, the inserts (colors) may be combined arbitrarily.

* The.set consists of the base adapter plus three (blue, green, orange) pairs of guidance blocks. The set does not include the yellow blocks.

04-000020	Wax-up Multimedia DVD Digital Wax-Up course “Class I Occlusion” Prof. Slavicek and Team ISBN 978-3-9501261-3-6
04-000021	Wax-up Multimedia DVD Digital Wax-Up course , “Class II, III, Cross Bite”, Prof. Slavicek and Team ISBN 978-3-9501261-4-3
04-000018	Wax-up base models (upper/lower) for multimedia wax-up course *(please inquire for availability)* (For Reference SL mounting, incl. distance blocks and mounting plates, pinned lower dental cast)

Reference – Occlusal plane measuring, planning and setting

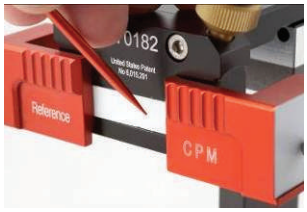
This unit allows you to measure and/or lay out the individual occlusal plane in degrees.
In two parts for the different inclinations of the right and left dentition.

Mounting takes place in the Reference articulator.

06-231850	Occlusal plane measuring unit

Reference – flexible Condylar-Position-Measurement (ICP vs. RP)

CPM SL (**C**ondyar-**P**osition-**M**easurement adapter) – A pair of mechanical measurement adapters for the metric comparison of the centric and intercuspal positions of the mandible. Adaptable on the SL articulator- so it is not necessary to buy a special appliance!



06-231350	CPM-SL, including marker pin (pair)
06-231351	CPM-SL marker pin
06-231352	Reference Writing labels CPM (8 sheets, each 25 labels)
06-231353	Transparent protective foil

E-CPM - **E**lectronic **C**ondylar **P**osition **M**easurement

06-230600	E-CPM electronic condylar position measurement, complete

E-CPM Upgrade – upgrade device for CADIAX® *compact 2* for electronic measurement of condylar positions
system requirement: CADIAX® *compact 2* (01-10E200-2)

06-230610	E-CPM Upgrade for CADIAX® *compact 2*

A-CPM – Mechanical condylar position measurement, a stand-alone system without the need for electronics

This device enables a metrical measurement comparing different lower jaw positions and the resulting effect on the jaw joint.
For diagnostic purposes and to guarantee the quality of the prosthetic reconstructions the support function of the posterior occlusion in ICP can be checked in relation to a centric reference position (RP) of the mandible.

06-230620	A-CPM Upgrade set mechanical ((digital measurement unit, mechanic flags, marker pin, allen key, writing labels)
06-230630	Reference-CPM Set for condylar position measurement, incl. 06-230610 E-CPM + 06-230620 A-CPM Upgrade Set
06-230631	Diagnostic notes condylar position measurement (60 sheets)
06-230632	A-CPM writing labels (10 sheets each 12 labels)

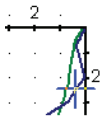
Reference – change mandible position with the Variator

CPV (**C**ondylar-**P**osition-**V**ariator): enables exact metric positioning of the condyle position in three spatial directions, e.g., for setting a therapeutic mandible position, for making splints, or for a diagnostic set-up in orthodontics.

Ideal for application in combination with the CADIAX® Registration System. A joint position determined by CADIAX® can be set directly in the unit!

The calibration key (06-231900) is necessary for determining the centric zero position!

06-230750	CPV (Condylar-Position-Variator)



Left Side	
X	0,37 mm.
Y	-0,13 mm.
Z	2,44 mm.

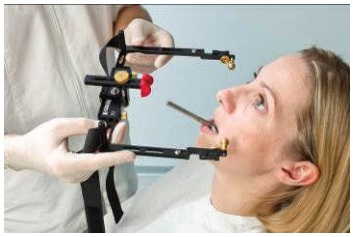
Face-Bow

No model should be mounted without first determining a spatial jaw relation. With the Reference system, GAMMA offers the possibility of transferring arbitrary and exact models of the upper jaw. With the proven and tested 3D joint support the face-bows can be applied simply and safe.

Reference – anatomic face-bow

Parallel adjustable anatomic face-bow, with 3D joint support. With this face-bow, there is no undesirable axis displacement, e.g., from a shearing effect. Its box-like construction and double-clamping ensure the utmost stability. In its construction, the Reference AB Face-bow is aligned with the AO-plane (hinge axis-orbital plane), the front reference point lies 22 mm below the lowest recession of the Glabella.

06-230430	**Reference AB face-bow** (incl. 3D joint support)
06-230433	Reference AB attachment screw (pc.)
06-230435	Reference AB Porus supports (pair)
06-230436	Reference AB articulator adapter screw (pair)
06-230443	Glabella support for Reference AB face bow
06-230444	Glabella cushion comfort (5 pcs)
06-230445	Glabella support comfort (incl. 3 pcs Glabella cushions comfort)
06-230470	3D joint support for AB face-bow
06-230471	Reference adapter screw (for 3D-joint support)
06-217611	Bite fork, partial, 2 pieces should only be purchased with 3D-joint support, not incl. in 04-GCR009 or 04-GCR011)
06-230465	Recording plates for Reference AB face bow, red (pair)
06-230111	Recording plates (flag) for Cadiax compact flag adapter (pair)
01-SP0046	Flag adapter incl. screws for Reference AB (pair)
06-642150	Bite Tabs (180 pieces.)



If the AO plane is left, an accessory set is available with adjustable orbital pointer. However, in this case, mounting is then only possible in the upper jaw transfer stand (Art. # 06-230510). Sterilizable, detachable ear-plugs.

For data recording with CADIAX® compact, the AB-Bow can be upgraded with easy-to-use accessories.

The advantages are obvious: one bow, two applications!

Mounting elements:	
06-230480	Face-bow support
06-230490	Orbital pointer for Reference AB face-bow incl. mounting axes
06-230585	Bite fork support
06-230566	Mandible mounting clamp – for a stable position of the articulator during LJ mounting

2/12 Articulator & Face-bow

Reflitex: for model transfer and possible conversion from Reference into the Artex® system.

06-216280	Transfer stand AB- receives the face-bow registration from the AB bow. The Reference distance block plus mounting plate serve as transfer table
06-216320	Reflitex Combi-set- 3-piece Splitex plate set for Reference articulators. Simply “click-in” upper and lower jaw plates. The Reference SL is adjusted to the Artex® level.
06-216321	Upper jaw plate for Reflitex combination set
06-216322	Lower jaw plate for Reflitex combination set
06-216330	Reflitex combination set for CPM 2-piece Splitex plate set (UJ plate and LJ base plate) for E-CPM and A-CPM. Simply click in upper and lower jaw plates.
06-216281	Reflitex base plate for transfers table or CPM
06-216011	Splitex® distance plate +10mm synchronization Artex® Carbon to Artex® Standard

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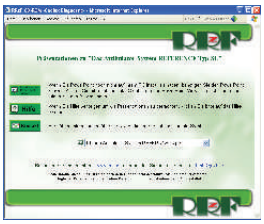
Reference – Instructional CD

RRzF instructional course CD-ROM "Reference SL Operation and Training”. This instructional CD was created by Tilman Fritz, one of the most experienced users of the GAMMA system.

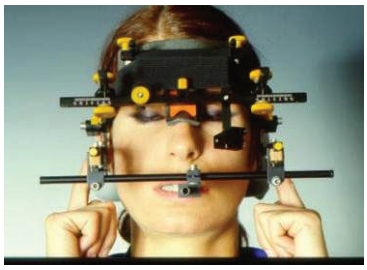
Step by step, you learn exactly how to use the Reference SL articulator, from mounting models to eccentric articulator programming.

Helpful for the entire team of dental practice- and lab team.



04-002015	RRzF Instructional CD „Reference SL“

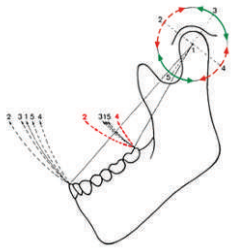
Reference – exact hinge axis with the Condylograph



A high-precision measurement device, for the dentist working with functional diagnostics. The upper face-bow is fixed securely to the head by means of 3-point support technology (Nasion and 2x on the forehead) and the head-neck flex-band. The side arms lie without pressure on the ear-saddle. The face-bow is mounted easily and safely and is comfortable for the patient to wear.

The light construction of the mandibular bow allows for precise setting of the registration pins onto the exactly determined hinge axis.

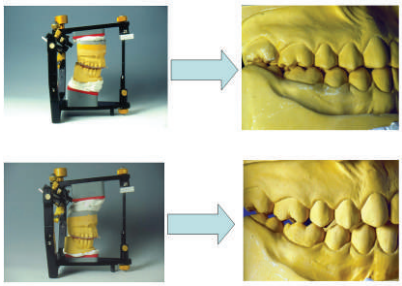
Why an exact hinge axis?



effects of mandibular rotational movements with different mounted axis points

The graphic shows the effects of mandibular opening- and closing movements during changes in the position of the hinge axis point of rotation in the articulator. With the anatomic face-bow, the joint axis is mounted to a statistical axis point, derived from the examinations of a number of patients. There is then the possibility of considerable deviation of the mounted axis to the actual kinematic axis.

2/13 Articulator & Face-bow



example of ICP in the articulator with strongly deviating hinge axis mounting or model position

An exact mounting of the hinge axis is indicated in cases where vertical modifications are carried out, e.g., splint therapy or milling-in, vertical changes during reconstructions, in total prosthetics or implant prosthetics.

the condylograph carries the measurement sensory system used in the CADIAX diagnostic system

A further important point, with regard to diagnostic registration with CADIAX: in order to eliminate geometric distortions in the movement tracks, caused by rotation, the hinge axis must always be located exactly.

The upper jaw model transfer with exact localized hinge axis and individual reference plane in the Reference, Artex® and SAM® articulators.

Indications:

- **Cases with planned vertical modifications**
- **Working with centric registration**
- **Remounting restorations**
- **Remounting in total prosthetics**
- **For exact occlusion diagnostics in the articulator**
- **For distortion-free joint diagnostics with CADIAX®**

04-GCR309	Condylograph Set standard transfer stand for Reference articulator (for Artex®, SAM®, Denar®, Hanau® articulator systems on request)
04-GCR311	Condylograph *comfort* Set standard transfer stand for Reference articulator (for Artex®, SAM®, Denar®, Hanau® articulator systems on request)
04-GCR311I	Condylograph *comfort* Set I transfer stand for Reference articulator as 04-GCR011, but orbital pointer individual (for Artex®, SAM®, Denar®, Hanau® on request)
04-GCR312	Condylograph *comfort* Set for CADIAX *compact* transfer stand for Reference articulator incl. supplementary parts for registiration with Cadiax compact (for Artex®, SAM®, Denar®, Hanau® on request)
04-GCR314	Condylograph Set for CADIAX *compact* transfer stand for Reference articulator incl. supplementary parts for registiration with Cadiax compact (for Artex®, SAM®, Denar®, Hanau® on request)
04-GCR010	Condylograph *comfort* face bow incl. reference point indicator P+T
04-GCR010I	Condylograph *comfort* face bow incl. reference point indicator
04-GCR013	Extension set for Condylograph + for Condylograph *comfort* to enable working with Cadiax compact 2 using patient's individual axis

2/14 Articulator & Face-bow

Components and spare parts for upper face-bow

06-230292	Forehead-neck band for condylograph, 5pcs/pkg
06-230288	Retention straps for Condylograph *comfort,* 3 pairs/pkg, version 1
06-230290	Retention straps for Condylograph *comfort*, version 2
06-230291	Reference headband for Condylograph *comfort*
06-230250	Bite fork support for Condylograph
06-230251	Bite fork support for Condylograph *comfort*
06-230252	Adapter for bite fork support for Condylograph *comfort*
06-230260	Bite fork for Condylograph and Condylograph *comfort*
06-230240	3-D joint support Condylograph (not included in set 04-GCR009)
06-230245	3-D joint support Condylograph *comfort* (not included in set 04-GCR010 + 04-GCR011)
06-217611	Bite fork, partial, 2-pieces (Should only be purchased with 3-D joint support, not included in 04-GCR009 set)
06-235145	Axis indicator holder (pair)
06-230370	Axis needles and sockets (pair)
06-230155	Axis pins, long (pair)
06-230156	Axis pins, short (pair)
06-230110	Recording plates for Condylograph and Condylograph *comfort*, red (pair)
06-230111	Recording plates (flag) for Cadiax *compact* flag adapter (pair)
06-230270	Glabella support for Condylograph
06-230285	Reference point indicator for Condylograph
06-230286	Reference point indicator T fixed (22mm) for Condylograph *comfort*
06-230287	Reference point indicator P fixed (22mm) for Condylograph *comfort*
06-230284	Reference point indicator individual for Condylograph *comfort*

Components and spare parts for mandible face-bow

06-235306	Mandible Face-bow, indiv. adjustable
06-231352	Reference Writing labels (8 sheets, each 25 labels)
06-230335	Occlusal tray clutch, large
06-230330	Occlusal tray clutch, small (standard)
06-230345	Functional occlusal clutches (5 pcs)

Components and Replacement parts for articulator mounting

06-230510	UJ Transfer stand for Reference, incl. reference plane adjustment reed
06-230512*	UJ Transfer stand for SAM® incl. reference plane adjustment reed and distance ruler (Artex®, Denar®/Hanau® please inquire for availability)

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06-230520	Reference plane adjustment reed for 06-230510 (Reference)
06-230522	Reference plane adjustment reed for 06-230512 (SAM®) (Artex®, Denar®/Hanau® please inquire for availability)
06-230530	Distance ruler
06-230570	Pedestal support
06-230566	Mandible mounting clamp- for a stable free standing position of the articulator during LJ mounting

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notes:

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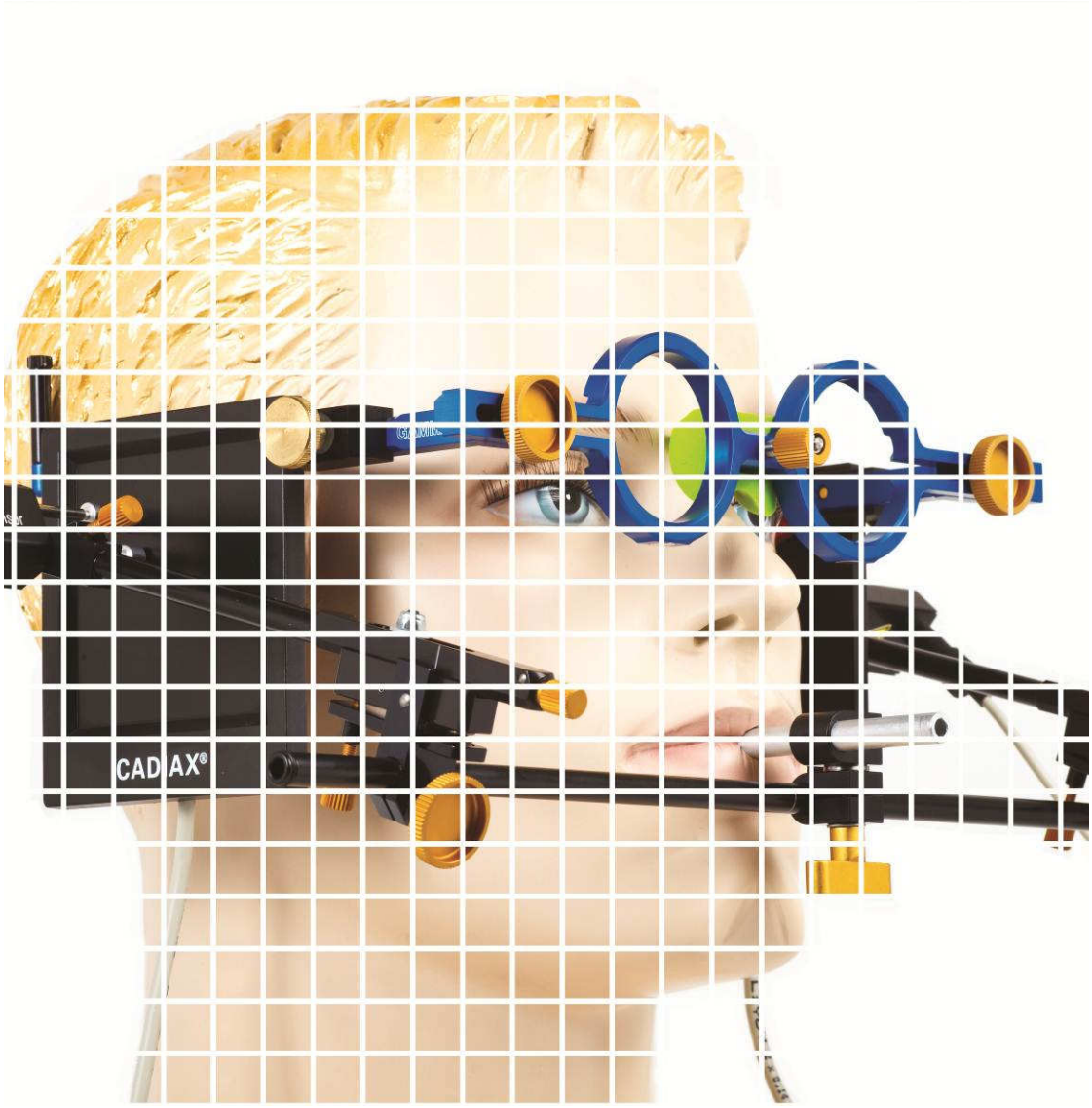
office@gammadental.com

3/1 Recording – CADIAX®



Recording of mandibular movements with CADIAX®

Electronic registration of mandibular movement is now a standard procedure in many dental practices. The range of application is diverse: CADIAX® offers individual patient value-settings for semi- and fully-adjustable articulators, thus satisfying all of your needs, from joint-related reconstructions to the diagnostics of dysfunction.

- Bilateral, simultaneous, timed 3D registration of condylar movement
- Registration of sagittal and transversal condylar tracks
- Automatic conversion of the joint track curves for the articulator
- Electronic Condylar-Position-Measurement (CPM) directly on the patient
- Individual or standardized registrations according to Prof. Slavicek
- Variety of evaluation- and display possibilities, including zoom functions, replay, overlays, 3D-animation and articulator calculations
- Registration of hinge axis rotation (only CADIAX® *4*)
- Hinge Axis calculation and adjustment with real-time display (only CADIAX® *4*)
- Computer-supported incisal table calculations

CADIAX® - You CAN believe your eyes!

CADIAX® measures near the joint, on the axis; a distinct advantage in the practice. On the one hand, the proven electronic measurement technology guarantees high precision; on the other hand, the system is easily comprehensible and transparent. With CADIAX®, you can review and control at any time, ideal for your practice.

The hinge axis determined by CADIAX® is precisely transferred to the articulator through the face-bow, which is extremely stable.

CADIAX® - One recording system serves a variety of articulator systems

At the push of a button, CADIAX® calculates articulator value-settings for the **Reference SL** articulator as well as for several other articulator systems, such as:

Artex®, Denar®, Hanau®, Ivoclar®, KaVo®, Panadent®, Reference SL, SAM®, WhipMix®.

Sagittal Condylar Guidance Reference® SL

Inlay	Right			Left		
	3rd mm	5th mm	10th mm	3rd mm	5th mm	10th mm
Straight	70	70		60	64	58
Convex	•64	•68		•54	•60	•60
Retrusiv	Black	Black		Black	Black	Black

Transverse Condylar Guidance Reference® SL

	Right			Left		
	3rd mm	5th mm	10th mm	3rd mm	5th mm	10th mm
WHITE	•11	•15	•13	•6	•12	•11
YELLOW	0	0	0	0	0	0
RED	0	0	0	0	0	0
BLUE	0	0	0	0	0	0

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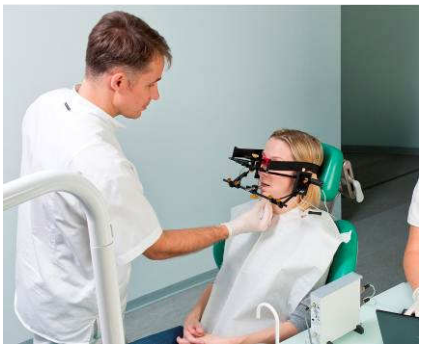
3/3 Recording – CADIAX®

CADIAX® - diagnostic data

Diagnostics relative to therapy and standardized documentation are called for in running a modern, “evidence based” dental practice. GAMMA offers two systems (CADIAX® *compact* 2 and CADIAX® *4*) which, depending on their application, offers solutions for any situation.



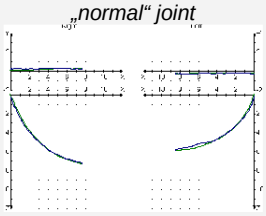
The *compact* system was designed for standard cases. Perfectly qualified for articulator programming, with additional options for screening dysfunction.

The “big brother”, CADIAX® *4*, measures translational- and rotational mandibular movements at the exact hinge axis, using a double-stylus system. The system fulfils all the needs of the dentist working in functional diagnostics. In addition to the standard movements, the system can also register functional- and parafunctional movements: chewing, speaking, bruxism. Using these as overlays to the limiting movements, you can ascertain any deviations from the average patterns.

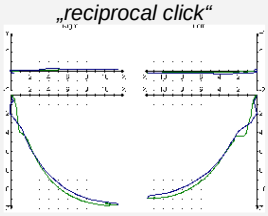
With the electronic Condylar-Position-Measurement (CPM), the difference between centric joint position and ICP can be measured, directly on the patient. This is not only of diagnostic interest, but also serves in ensuring the quality of dental reconstructions.

Condylograms and diagnoses based on registrations with CADIAX® 4

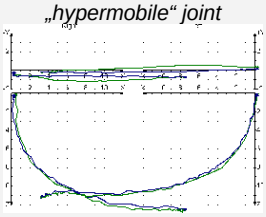
„normal“ joint



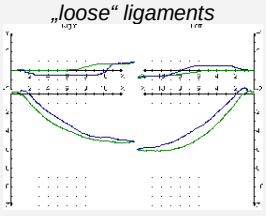
„reciprocal click“



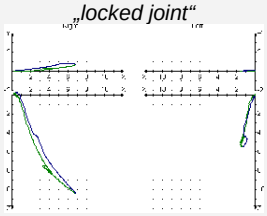
„hypermobile“ joint



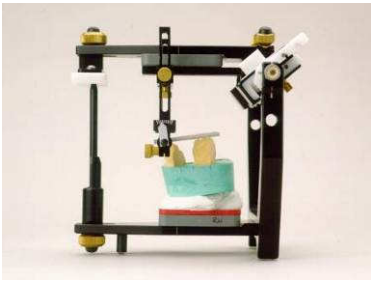
„loose“ ligaments



„locked joint“



CADIAX® - therapy-relevant data

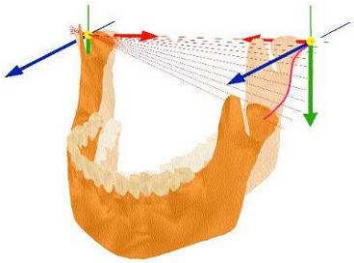


Paying attention to the individual patient’s functional pattern helps in minimizing the risks of therapy. Strategic planning of occlusal parameters, in conjunction with habitual hinge axis movements, provides a solid basis for deciding on therapeutic measures. For example, decisions regarding the occlusal plane, inclination of anterior guidance, or eccentric disocclusion concepts based on the posterior joint guidance are easily arrived at and comprehensible.

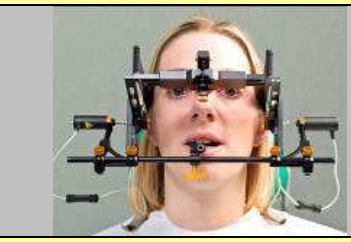
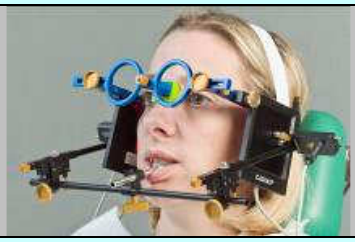
3/4 Recording – CADIAX®

CADIAX® - joint specific splint positions

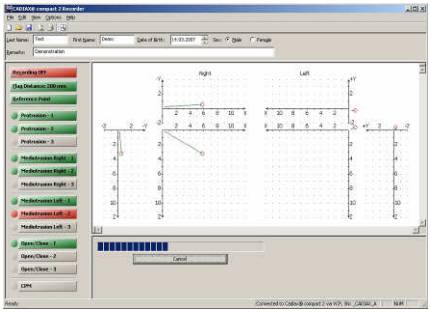
In conjunction with the Condylar-Position-Variator (Art. # 06-230750), therapeutic splint positions can be planned and implemented exactly in all spatial directions.



CADIAX® - comparing the systems

	CADIAX® *compact 2* / CADIAX® *compact 4*	**CADIAX® *4***
		
Joint axis	Anatomic – arbitrary or exact	Kinematic – exact computer supported hinge-axis location
Face-bow	Reference AB face-bow	Condylograph
Reference plane	Francfort plane (FH)	Axis-Orbital plane (AOE) or chosen arbitrarily
Control	Windows PC	Windows PC
ADC (internal resolution)	14 Bit (0,01mm)	16 Bit (0,001mm)
Data transfer	USB	USB
Stylus	Single (only translation)	Double (translation and rotation)
Flag	40 x 40mm	60 x 60mm
Recording time	4,5 seconds	4,5 – 18 seconds variable
Number of recordings	12 + 10 CPM	Practically unlimited
Printout	Only through Windows PC	Only through Windows PC
Scope or application	Individual value settings for several articulator systems Instrumental functional analyses in preliminary examination (“Screening”) Documentation Quality assurance Quality control	Individual value settings for several articulator systems Instrumental diagnostic detailed analyses Scientific examinations/evaluations Documentation Quality assurance Quality control
Application time (expert user)	About 7 min.	about 30 min.

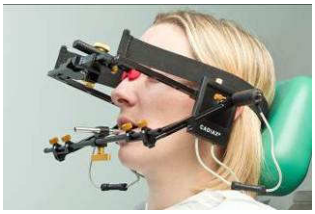
CADIAX® *compact 2*



Recording system consisting of an electronic measuring system and an easily manageable Windows software for quickly registering mandible joint movements. Uses the Reference AB face-bow, fixed to the head and holding the flags, and a mandible bow, adjusted to an arbitrary hinge axis. CADIAX® *compact* 2 is easy to use and the results are reproducible.

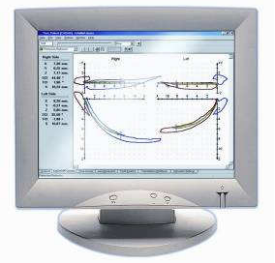
The system saves following curves, max. 3 per patient: protrusion, mediotrusion right and left, open/close. In addition, 10 CPM positions may also be recorded.

The individual patient's articulator calculations are done at the push of a button. For documentation, the curves are printed out directly on a color printer. Optionally, the data can be saved in the Gamma Dental software.

01-10E200-2	CADIAX® *compact* 2 Electronic registration system, consisting of • Electronic box • 2 Flags • 2 Styli • Foot switch • cables • Manual • Recording software (Gamma Dental Software® not included)	
06-230430	Reference AB face-bow (incl. 3D joint support)	
06-230451	Upgrade set for AB face-bow (mandible bow, clutch small, retention straps with pins)	
01-10E300-2	**CADIAX® *compact* 2 basic system**	Consisting of: 01-10E200-2 + 06-230430 + 06-230451 + 03-SOFTE000CC2

Gamma Dental Software® (GDSW)

Gamma Dental Software® for Windows is the ideal supplement to CADIAX *compact 2*. A variety of analysis options, in conjunction with a modern database system. (Details about Gamma Dental Software® can be found in the "Diagnostics/Software" chapter)

03-SOFTE000CC2	Recording Software for CADIAX® *compact* 2	 requires Windows® XP, Vista, Windows 7
03-SOFTE000C	GDSW Version „C" database system with enhanced CADIAX® analyses	
03-SOFTE000CW	GDSW Version „CW" like version "C", with wax-up program	
03-SOFTE000S	GDSW Version "S" Central diagnosis and planning module, including cephalometric program	
03-SOFTE000AM	GDSW Version „AM" like version "CW", including cephalometric analysis program	Prices apply to single user licenses!
03-SOFTE000DB	GAMMA Document Browser base licence	
01-10E300-2C	**CADIAX® *compact* 2 basic system incl. Gamma Dental Software® Version „C"**	Consisting of: 01-10E200-2 + 06-230430 + 06-230451 + 03-SOFTE000C

CADIAX®*4 – the new system*

One basic unit – all options for registration

The compact structure and its flexible range of application are most impressive features of the new CADIAX®*4* system.

CADIAX®*4* data process is easy both for data registered with the CADIAX® *compact* 2 measuring stylus or with the double stylus system of CADIAX®*4.*

Consequently the system can be upgraded in a modular way and the user is granted maximum flexibility in regard of registration of condylar movements and data evaluation.

Minimum space requirement and ergonomic handling are some of the advantages of CADIAX®*4*.

CADIAX®*4* is high-precision, 16 Bit ADC enables a resolution of > 1/100mm.

Power supply works via USB port.

Data transfer and data exposure of CADIAX®*4* are done in real time, this rapid data transfer makes it possible to display positions on the screen before recording, so that the user can control the reference position once more and correct it if necessary.

CADIAX® *compact 4*

07-10E200-2	CADIAX® *compact 4* (incl. recording software, not incl. face-bow and upgrade set)
07-10E300-2	CADIAX ® *compact 4* basic system consisting of: : 07-10D200-2+06-230430+06-230451+03-SOFTE000CC
07-10E300-2C	CADIAX ® *compact 4* basic system + GDSW version „C“ Consisting of : 07-10D200-2 + 06-230430 + 06-230451 + 03-SOFTD000C
07-SP0064	systainer case for CADIAX®*4*
07-SPE0038	User manual for CADIAX ® *compact 4*

Replacement parts/ accessories for CADIAX® compact

06-230452	Upgrade set individual for AB face bow 06-235306 mandible bow 06-230370 axis needles 01-SP0040 retention straps 06-230330 clutch small 06-231352 Reference writing labels 06-230111 recording plate red
04-GCR312	Condylograph *comfort* Set for Cadiax *compact* Transfer stand for Reference articulator incl. supplementary parts for registration with Cadiax compact for Artex®, SAM®, Denar®, Hanau® on request
04-GCR314	Condylograph comfort Set for Cadiax *compact* Transfer stand for Reference Articulator incl. supplementary parts for registration with Cadiax compact Artex®, SAM®, Denar®/Hanau® on request

3/7 Recording – CADIAX®

04.GCR013	Extension set for Condylograph + Condylograph comfort for working with Cadiax compact 2/compact 4 using patient's individual axis
04-GCR010	Condylograph *comfort* face-bow
06-235306	Mandible Face-bow, indiv. adjustable
06-230335	Occlusal tray clutch, large
06-230330	Occlusal tray clutch, small (standard)
06-230345	Functional clutches (5 pcs)
06-230350	Mandibular clamp for LJ bow
06-230444	Glabella cushion comfort (5 pcs.)
06-230445	Glabella support comfort (incl. 3 pcs Glabella cushions comfort)
04-000011	Bow stabilizer for the AB Upgrade set, arbitrary (pair)
04-000012	Bow stabilizer for the AB Upgrade set, arbitrary GAMMA (pair)
01-SP0029	Axis locators (piece)
06-230370	Axis needles and sockets (pair)
01-SP0040	Retention straps for Reference AB face bow (pair)
01-SP0043	Mechanics set for Reference AB face-bow
01-SP0046	Flag adapter incl. screws for Reference AB (pair)
01-SP0012	EPROM for CADIAX® *compact* Firmware-Update
01-SP0027	Foot switch for CADIAX® *compact 2*
01-SP0020M	Measuring stylus, CADIAX® *compact 2*
01-SP0023M	Measuring flag, CADIAX® *compact 2*
01-SP0052-MSET-10	Measurement sensory system CADIAX® *compact 2*, with magnet-retention technology (2 flags, 2 styli)
01-SP0052-MSET-10U	Measurement sensory system CADIAX® *compact* 2 with magnet-retention technology (2 flags, 2 styli), on return of used flags/styli
01-SPE0037	User manual for CADIAX® *compact*
01-SPE0038	User manual for CADIAX® *compact 2*
03-CCPRINT	Printer software for CADIAX® *compact*, incl. serial USB adapter (Minimum Cadiax *compact* Firmware Version 2.41 required)
01-SP0060	Upgrade Set CADIAX® *compact* to *compact* 2 w/o sensors
01-SP0061	Upgrade Set CADIAX® *compact* to *compact* 2 w/o sensors (price valid on return of old electronic box)
01-SP0062	USB cable CADIAX® *compact* 2
01-SP0063	Retention strap for CADIAX® *compact* 2 electronic box, 25mm
01-SP0064	Systainer case for CADIAX® *compact* 2

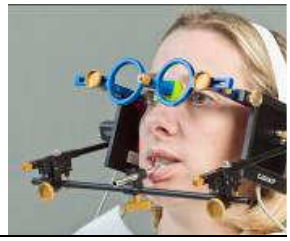
CADIAX® *4*

The high-end condylography system from GAMMA.

CADIAX® *4* provides high-resolution registration of all ranges of free mandibular movement. In addition to all of the possibilities of articulator- and incisal table programming, CADIAX® *4* especially meets the demands of a functional diagnostic registration system.

The dynamic hinge axis location makes it easy to locate and reproduce the exact axis. Transfer of the bite registration in the articulator, relative to the axis, is carried out with the same face-bow in one process. CADIAX® *4* is a closed system. It is based on many years of scientific and practical experience and was conceived and developed for the everyday practice.

CADIAX® *4* measures translation and rotation. The high-precision electronics (16 bit ADC) work with an internal measurement resolution of 0.001mm. The system records practically any number of movements, up to a duration of 18 seconds per registration.

08-00G200	CADIAX® *4* Electronic box including: 2 flags (large), 2 double-styli, foot switch, cables, carrying case, USB cable, user manual (prerequisite: condylograph / condylograph comfort; GDSW Version "AM")	
08-00G200AM	CADIAX® *4* Electronic box including: 2 flags (large), 2 double-styli, foot switch, cables, carrying case, USB cable, user manual Including: GDSW Version "AM" Not included: condylograph / condylograph comfort;	
04-GCR309	Condylograph Set consisting of: cranial and mandible bow; 3D-joint support and bite fork partial; Upper jaw transfer stand and supplementary parts for-transfer to Reference articulator * mounting stand for Artex®, SAM®, Denar®, Hanau® on request	
04-GCR311	Condylograph *comfort* Set consisting of: cranial and mandible bow; 3D-joint support and bite fork partial; Upper jaw transfer stand and supplementary parts for transfer to Reference articulator * mounting stand for Artex®, SAM®, Denar®, Hanau® on request	
04-GCR311I	Condylograph *comfort* Set I As 04-GCR311, but incl. orbital pointer individual	

Gamma Dental Software® (GDSW)

Gamma Dental Software® for Windows® is prerequisite for the CADIAX® *4* application. GDSW offers a variety of analysis options, paired with a modern database system.
(Details about GDSW can be found in the “Diagnostics/Software” chapter).

Prices for single user licenses!

Compatible with Windows® XP, Windows® Vista, Windows® 7

03-SOFTE000AM	**GDSW Version „AM“** Patients database system, Condylography module, CADIAX® analysis module, cephalometric analysis program (CADIAS) tooth status module, wax-up module **(this software is not included in CADIAX® *4* 08-00G200!)**

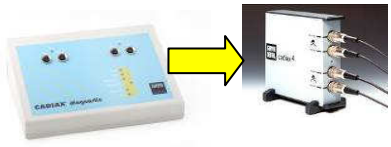
CADIAX® *4* complete system

08-GCR310AM:
consisting of : 08-00G200AM + 04-GCR309

02-GCR410AM:
consisting of: 08-00G200AM + 04-GCR311

02-GCR410IAM:
consisting of: 08-00G200AM + 04-GCR311I

08-SP0010U	Upgrade CADIAX® *4* from CADIAX *diagnostic* in exchange for old system
08-SP0010A	Upgrade CADIAX® *4* from CADIAX *diagnostic*
08-SP0010AF	Upgrade CADIAX® *4* from CADIAX *diagnostic* incl. flags
08-SP0010UF	Upgrade CADIAX® *4* from CADIAX *diagnostic* incl. flags in exchange for old system



08-SP0020U	Upgrade CADIAX® *4* from CADIAX III in exchange for old system
08-SP0020A	Upgrade CADIAX® *4* from CADIAX III
08-SP0020AF	Upgrade CADIAX® *4* from CADIAX III incl. flags
08-SP0020UF	Upgrade CADIAX® *4* von CADIAX III incl. flags in exchange for old system

Replacement parts / components for CADIAX® 4

08-SP0100-MSET	Measurement sensory system CADIAX® 4 with "M" magnet technology (2 flags, 2 styli, incl. case)
08-SP0100-MSETU	Measurement sensory system CADIAX® 4 with "M" magnet technology (2 flags, 2 styli, incl. case) on return of used flags/styli
08-SP0107	CADIAX® *4* stylus cable
08-SP0002M	Measuring stylus CADIAX® *4*
08-SPD0037	User manual for CADIAX® *4*
08-SPGL01M	Measuring flag, left, for CADIAX® *4*
08-SPGR01M	Measuring flag, right, for CADIAX® *4*

Replacement parts/ accessories for CADIAX® diagnostic	
04-GCR010	Condylograph *comfort* face bow (incl. reference point indicator P+T)
04-GCR010I	Condylograph *comfort* face bow (incl. reference point indicator individual)
06-230240	3D joint support Condylograph
06-230245	3D joint support Condylograph *comfort*
06-230335	Occlusal tray clutch, large
06-230330	Occlusal tray clutch, small (standard)
06-230345	Functional occlusal clutches (5 pcs)
01-SP0027	Foot switch for CADIAX®
04-000014	USB – Serial adapter
02-SP0044	Serial cable
02-SP0002M	Measuring stylus CADIAX® *diagnostic*
02-SP0107	CADIAX® *diagnostic* Stylus cable
02-SPGR01M	Measuring flag right, for CADIAX® *diagnostic*
02-SPGL01M	Measuring flag left, for CADIAX® diagnostic
02-SP0100-MSET	Measurement sensory system CADIAX® *diagnostic* with “M” magnet technology (2 flags, 2 styli, incl. case)
02-SP0100-MSETU	Measurement sensory system CADIAX® *diagnostic* with “M” magnet technology (2 flags, 2 styli, incl. case), on return of used flags/styli
02-SPE0037	User Manual for CADIAX® *4*

“The Masticatory Organ”: a fascinating book by Dr. R. Slavicek, full of experiences concerning the functions and dysfunctions of the masticatory organ. An important work, very helpful for understanding the possibilities of the GAMMA system.

Highly instructional, richly illustrated, with 543 pages.

3-9501261-1-2	**Book „The Masticatory Organ“** Prof. Dr. Rudolf Slavicek

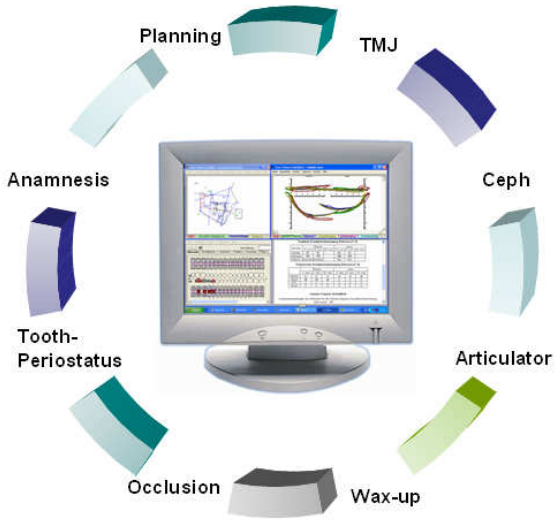
4/1 Diagnostic & Software

Diagnostics with Gamma Dental Software®

Diagnostics is the collection and evaluation of individual findings and other information with the goal of arriving at a diagnosis. A diagnostic system must be relevant to therapy and must meet the demands of running a modern dental practice. GAMMA provides a logically constructed system which makes the acquisition and administration of such information possible and fully supports the user in forming a diagnosis.

Gamma Dental Software® is a system built up of modules, which comprehensively cover the requirements of modern clinical- and instrumental functional diagnostics and functional therapy.

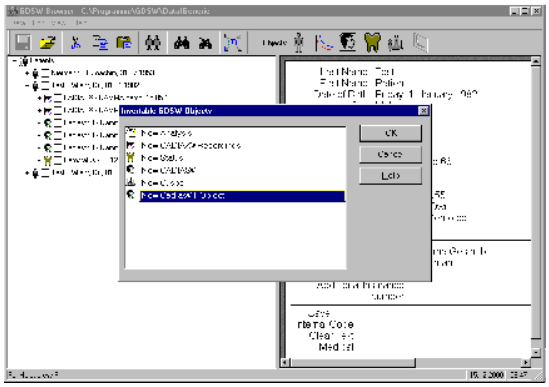
- **Anamnesis findings**
- **Cephalometric diagnosis and planning**
- **TMJ diagnoses**
- **Articulator programming**
- **Wax-up**
- **Tooth and periodontal status**



The close affiliation and compatibility to face-bows and articulators makes the software an ideal interdisciplinary communications medium during the practical course of therapy.

GDSW data management

The Gamma Dental Software Data Manager is equipped with a modern Windows® database system.



The system administers patient data and allows you to specifically classify data, whereby you may include as much information as you wish. The system is also set up so that you can save any other documents you choose (e.g., photos, MS-Word documents) and assign them to an individual patient.

The contents of any selected data record are available for a quick scan, using the integrated **Pre-View Function**.

Naturally, the system has an open **interface** available for the most common practice administration systems and it supports the following programs: *Baumgartner, Dampsoft, Evident, Solutio, Lutz Hergestell.*

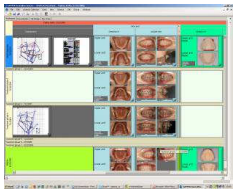
A fully integrated E-mail function allows you to send and receive GAMMA data, simplifying communication (e.g., between the dental practice and the lab), and eliminating the time-consuming printing of information.

Modular structure

The layout of Gamma Dental Software is modular and may be configured according to the needs of your practice and/or lab. This chapter describes some of the details of the individual modules.

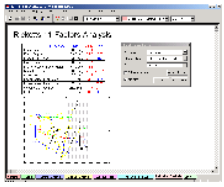
Gamma Document Browser

Gamma Document Browser is a comprehensive data base and documentation tool. In addition to the classical Gamma modules for diagnostics, it allows the inclusion of complete photo documentations as well as the extension of any existing documents, like text files, graphics and spreadsheets. The option for easy and direct presentation of data makes this program an excellent communi-cations tool which is suitable equally for students, in the dental office, in study groups or in the dental lab.



CADIAS®

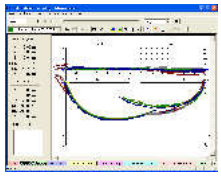
The central diagnosis- and planning module in Gamma Dental Software®. The focal point is the cephalometric analysis, which can be combined with other data, such as Clinical Functional Analysis or CADIAX®.



CADIAX® Analyses

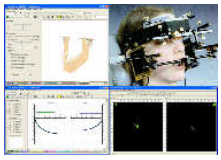
Processes registrations from CADIAX® *compact 2* and CADIAX® *4*. Includes a variety of display options, as well as conversions for setting the articulator and wax-up technique.

Especially suitable for CADIAX® *compact* 2 users who want to take advantage of the full potential of the system.



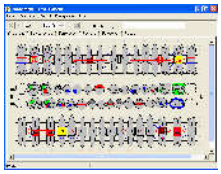
CADIAX® Condylography

Set up on the CADIAX® Analysis module, to carry out condylograph registration with the CADIAX® *4* system.



Tooth- and periodontal status

Processes input from tooth status, plaque status, periodontal status, tooth mobility, tooth resilience and occlusal functions.



All versions of the software include the basic module Data Manager, incl. Tooth/Periodontal Status. The following module combinations are available:

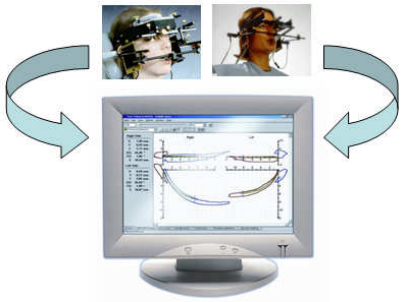
	03-SOFTE000CC2	Recording software for CADIAX® *compact* 2
Version „C“	03-SOFTE000C	CADIAX® Analyses Database system with enhanced CADIAX® analyses
Version „CW“	03-SOFTE000CW	Like version “C” with wax-up program
Version „S“	03-SOFTE000S	Central diagnosis- and planning module, incl. cephalometric program
Version „AM“	03-SOFTE000AM	All modules: CADIAX Analyses & Condylography, wax-up, incl. cephalometric analysis program
	03-SOFTD000DB	GAMMA Document Browser base license

*Price for single-user license.
System requirements: PC or Notebook with Pentium III processor or faster, operating system Microsoft Windows® XP, Vista® , Windows® 7, Windows® 8, 500 MB free disc space, 512 MB RAM, Serial and USB interface.

CADIAX® Analyses

The CADIAX® Analyses module processes and stores data from both CADIAX® registration systems, CADIAX® compact and CADIAX® *4*.

The program includes a variety of display options, as well as conversions for setting the articulator and wax-up technique. In addition to detailed diagnostic analyses of mandibular movement, it allows for expanded articulator calculations, including the setting of individual anterior guidance units.

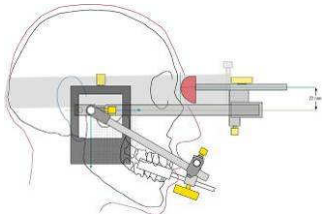


The software is especially suitable for CADIAX® compact users who want to take advantage of the full potential of the appliance. The high-resolution screen clearly displays all of the details from the condylography data.

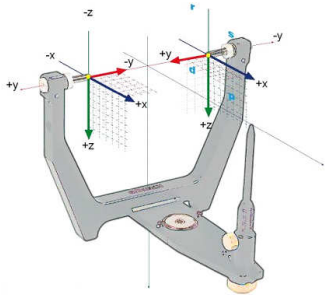
The 3-dimensional displays of mandibular movement are clear and easily comprehensible for the patient. This is extremely helpful when explaining planned therapeutic measures to the layman (patient).

Movement simulation through ex-centric articulator programming

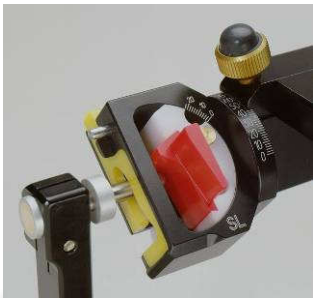
Using the CADIAX® compact face-bow and the CADIAX® *4* system, the coordinate system, defined by the hinge axis point and anterior reference point, is transferred directly to the articulator.



So, the logical working procedure becomes a closed system. Through the mechanical connection between registration and the articulator, CADIAX provides a precise relation for maximum reproducibility.



The data acquired with the registration systems can then be used in the calculation programs for individual patient settings in the articulator.



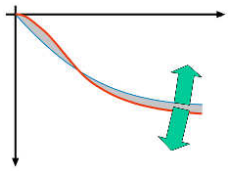
All calculations are based on the manufacturer's geometry for the various articulators.

Calculations for sagittal protrusion inserts are made with the protrusion track on hand, by evaluation of the X/Z diagram.

Calculations for transverse inserts are made with the mediotrusive movements on hand, by evaluation of the X/Y diagram.

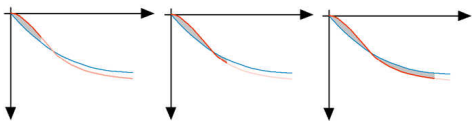
4/5 Diagnostic & Software

The mathematical adaptation of the given articulator characteristics is made according to the “best-fit” process. The articulator insert (blue) is turned until it coincides, as closely as possible, to the patient’s registration (red). If the articulator includes various inserts, the program will search for the best fit.



CADIAX® always calculates values for 3, 5 and 10mm, always processing the total track progression from 0 (reference position) to the given value.

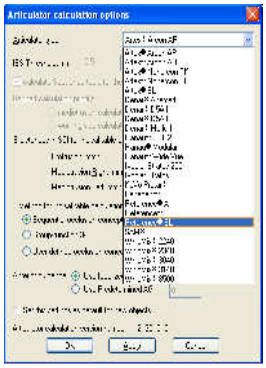
Right			Left		
3rd mm	5th mm	10th mm	3rd mm	5th mm	10th mm
32	37	41	14	26	34



0-3 mm *0-5 mm excursion movement* *0-10 mmm*

Compatibility

In addition to the perfectly suitable Reference SL articulator, CADIAX users have several other articulator systems at their disposal, which are compatible with the software:



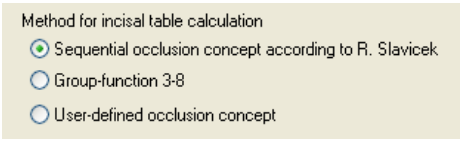
ARTEX®, DENAR®, HANAU®, IVOCLAR®, KAVO®, PANADENT®, SAM®, WHIPMIX®

Pre-calculated occlusal guidance for diagnostics and wax-up

The simulation in the articulator is determined by three adjustable guidance units: the two condylar joints and the adjustable incisal table. Posterior guidance is already given with the CADIAX registration.

Occlusion concepts and their implementation in wax-up are defined by means of the incisal table. By adjusting the guidance surfaces in the table, more or less rotation is brought into the movement, i.e., the inclinations of the guidance surfaces on the tooth are determined.

Gamma Dental Software® includes suggested pre-set concepts, as well as the possibility of implementing an individual, computer-generated occlusion concept.


Method for incisal table calculation
Sequential occlusion concept according to R. Slavicek
Group-function 3-8
User-defined occlusion concept

R. Slavicek’s natural concept of sequential occlusion is included as standard value in the software.

® SAM is a trademark of SAM Präzisionstechnik, Artex is a trademark Amann-Girrbach Dental, Denar & Hanau are trademarks of Whipmix, KaVo is a trademark of KaVo, Whipmix is a trademark of. Whipmix, Panadent is a trademark of Panadent, Ivoclar is a trademark of Ivoclar

For the sequential table, the calculations are based on the values of the joint guidance, in relationship with the spatial cusp coordinates, determined by statistical means.

Gamma Sequence Incisal Table

Condylar Articulator values for Sequence Incisal Table calculation

SCI right:	44°
SCI left:	29°
TCI right:	WHITE / 0°
TCI left:	WHITE / 1°

Suggested sequence table setting

Protrusion:	BLUE
Right lateral:	BLUE
Left lateral:	BLUE

For exact calculations, the cusp coordinates of the mandible are entered. Gamma Dental Software then calculates an incisal table setting for each tooth, depending on the desired concept.

Calculated vertical cusp tip positions

	Right				Left			
	TA	I - Table	T - S1	T - S2	TA	I - Table	T - S1	T - S2
1	46,2°	46°	34°	54°	46,2°	45°	34°	54°
2	46,2°	45°	34°	54°	46,2°	46°	34°	55°
3	36,2°	46°			36,2°	50°		
4	23,8°	34°			23,8°	39°		
5	16,8°	25°			16,8°	30°		
6m	10,7°	15°			10,7°	19°		
6d	9,2°	5°			9,2°	8°		
7m								
7d								
8m								
8d								

In addition, the program calculates an idealized radius of the curve of Spee and, depending upon the occlusion concept and cusp angles, an optimal inclination of the occlusal plane, according to functional parameters.

cusp inclination	20°	25°	30°
balanced occlusion 1/6	15°	10°	5°
balanced occlusion 1/7	24°	19°	14°
canine guidance 1/6	6°	1°	-4°
canine guidance 1/7	15°	10°	5°

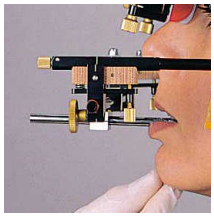
TMJ diagnostics

CADIAX® records the spatial movement of the hinge axis of both mandibular joints simultaneously, bilaterally and in elapsed time. Converted to the intercondylar distance, the system offers the possibility of using differential diagnostics for the static- and dynamic evaluation of the movement tracks.

The advantages of condylographic diagnostics are apparent:

- The method is non-invasive and carried out quickly
- The patients are not exposed to radiation
- The results are dynamically reproducible, independent of the therapist
- The examination can be carried out in the dental practice; the results are immediately available
- The ideal enhancement for interdisciplinary communication

Application of an individually adjustable mandible bow for setting the exact hinge axis is absolutely necessary in diagnostic condylography. When using the bow with CADIAX® *compact*, the hinge axis is manually adjusted before registration.

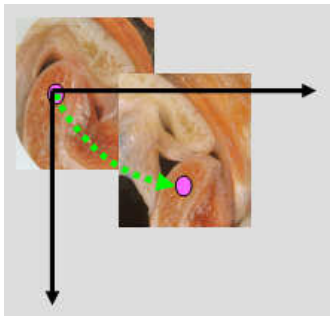


Individueller, auf die Scharnierachse justierter Schreibbogen als Voraussetzung condylographischer Diagnostik

The foundation of diagnostics is the standardized orthopedic description of the mobility and motility of the TMJ, with the following parameters:

- Quantity
- Quality
- Characteristics
- Symmetry
- Timing (comparison between left and right TMJ)
- Speed phenomenon
- CPM
- Functions und para-function

The following movements will be evaluated: protrusion/retrusion, mediotrusion right and left, open/close, speech, bruxism, chewing.



The principles of condylographic diagnostics

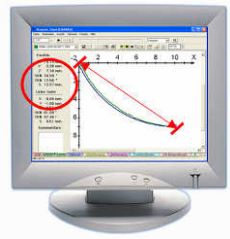
The first findings are purely descriptive. These are the basis for every other interpretation, and serve in the collection of diagnostic data.

Subsequent interpretation requires the differential diagnostic evaluation of the results with clinical- and instrumental functional analyses, because the condylography registrations can not be evaluated separately, but only in conjunction with the other findings of the cranio-mandibular system.

The “normal“ joint

Condylography findings are based on the principle of comparative diagnostics with statistically obtained movement patterns of a “normal joint”. The following illustrations display non-guided movements, without tooth contact and without utilization of a bearing device:

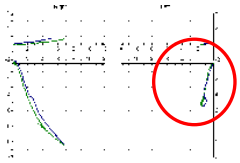
Quantity



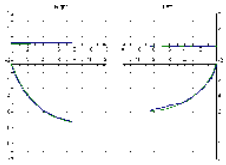
Describes the maximum excursion distance of the translatory part of a movement track, measured from the reference position to the most excursive point of the movement. The quantity is described as *reduced*, *average* or *hypermobile*.

With Gamma Dental Software®, this value can be read quickly and clearly, by clicking on the maximal excursive point in the CADIAX® curves.

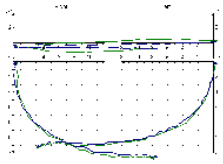
	reduced	**average**	**hypermobile**
Protrusion	<= 8 mm	> 8 mm und < 12 mm	>= 12 mm
Mediotrusion	<= 9 mm	> 9 mm und < 14 mm	>= 14 mm
Open/Close	<= 10 mm	> 10 mm und < 16 mm	>= 16 mm



Reduced quantity left during opening

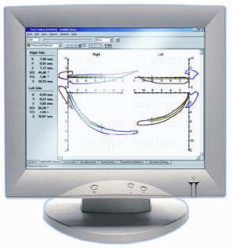


average quantity of a protrusive record



Hypermobility shown in an Open/Close movement

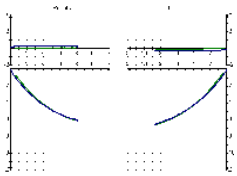
Quality



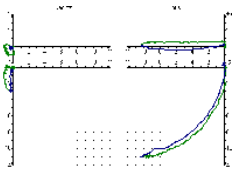
Normal registrations are reproducible, distorted and frictionless movements of synovial joints. Excursion- and incursion tracks practically overlap. The quality is described as *excellent*, *average* or *poor*.

With a variety of view and zoom options, Gamma Dental Software offers an ideal and vivid program for evaluating the quality of joint track recordings.

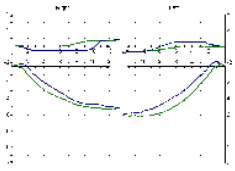
excellent	**average**	**poor**



Excellent Quality of a protrusive record



Average quality of a left mediotrusive record

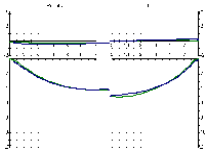


poor quality in open/close

Characteristics

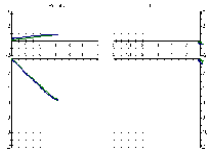
The characteristic is described as *concave*, *straight*, *convex* or *changing*. Normal tracks show an anterior concave characteristic.

anterior concave



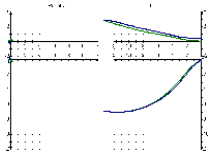
anterior concavity in the sagittal tracing for both sides

straight

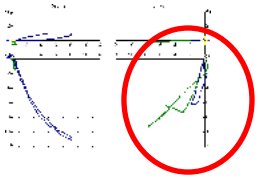


mediotrusion right shown with straight characteristics

changing



left mediotrusion with changing characteristics from convex to concave)

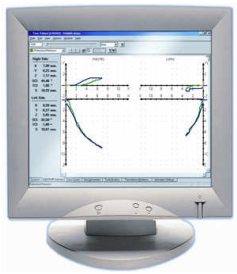


Example of open/close and mediotrusion leftin an overlay display.

The differential diagnostics of joint track overlays have special importance in the evaluation of the characteristic. The illustration left shows the overlay of an open/close movement (blue), with a left mediotrusion track (green).

The steep and extremely shortened opening track does not lie over the distinctly longer mediotrusion. An indication of anterior disk displacement of the left joint, with possible partial reduction.

Symmetry

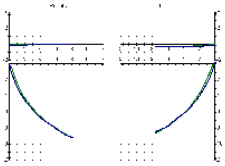


Right-left comparison of quantity, angularity, quality and characteristic of symmetrical registrations (protrusion/retrusion and open/close). In symmetrical movements, no noticeable transversal movements take place.

In the examination for symmetry, it has to be considered that the “symmetric” patient is not the norm. Thus, slight asymmetries are to be expected and considered “normal”. The evaluation of symmetry can only be carried out for open/close and protrusion/retrusion.

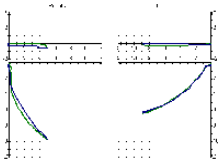
The clearly comprehensible Gamma Dental Software displays allow for evaluation of functional symmetry according to graphic and numerical standards.

symmetrical joint track



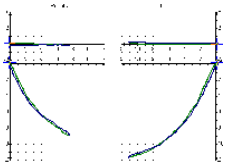
symmetrical joint track, protrusion

sagittal asymmetry of track inclination



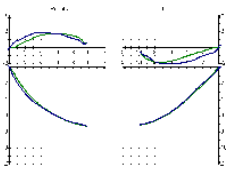
protrusion with extreme differences in inclination

sagittal asymmetry in quantity



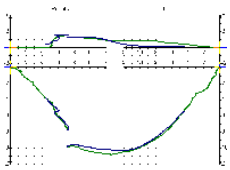
clearly extended tracing of left joint

transversal asymmetry



strong transversal asymmetry of a protrusion track, caused by occlusal interferences

sagittal and transversal asymmetry



extreme right-left differences in open/close

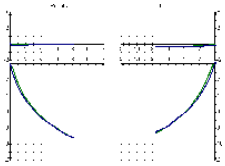
Timing and phenomena of speed

Dynamic evaluation of symmetric and asymmetric movements in translation and rotation.

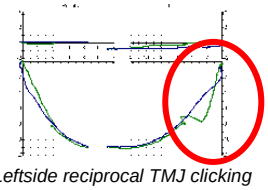
Observing speed phenomena of the sagittal, transversal and rotational components of hinge axis movement. Normal joint movements generally register speeds of less than 60 mm/sec.

Gamma Dental Software® provides the possibility for evaluating elapsed time by means of the view aspects “Axis movements”, “Translation-Rotation” and “Time curves”.

the „normal“ tracing

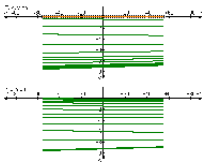


symmetric joint track

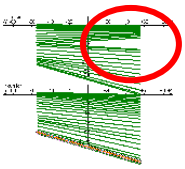


Leftside reciprocal TMJ clicking

Axis movement seperated in ex- and incursion

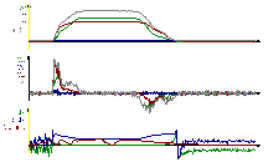


: the even hinge axis movement in excursion and incursion, separated

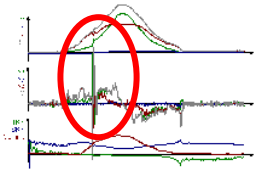


Blockage and acceleration visible in the axis movements

Time curves show the condylographic parameters drawn over the time axis

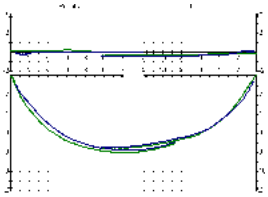


the time curves of a normal registration

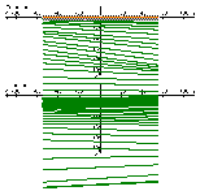


exact localization of luxation, using time curves

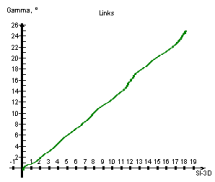
The significance of the hinge axis rotation in diagnostics



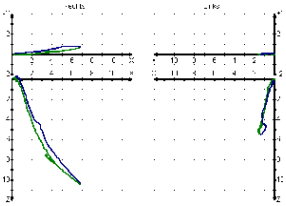
normal open/close movement



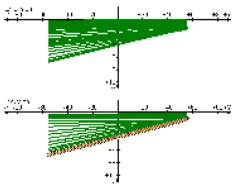
Blockage free hinge axis movement in excursion and incursion



Translation-rotation diagram shows a harmonious development of translation and rotation



locked joint on the left side



axis movements show the blocked joint

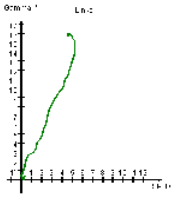
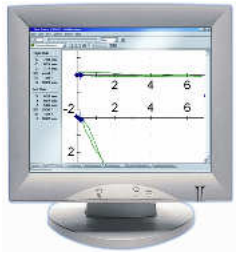


diagram of translation-rotation in a “locked joint” case

Condylographic diagnostics including functional occlusion

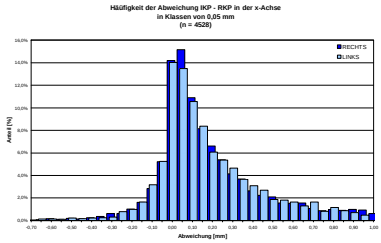
Prerequisite for these diagnostics: registrations carried out with the functional occlusal clutch

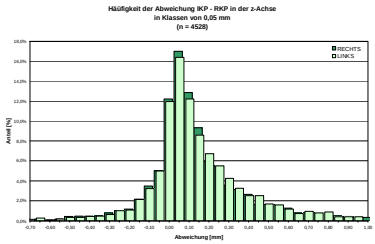
CPM® Condylar Position Measuring Unit



CPM measures the spatial difference between the reference position (centric) and a second mandible position (e.g., maximal ICP). The registrations are overlaid with a simple protrusion movement and evaluated.

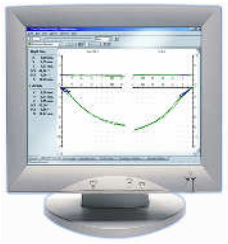
The ICP (or closed bite position) normally lies on the reference position or slightly anterior, on the habitual protrusion track





With CPM you can measure the relation of the existent ICP to the joint, or make a post-reconstructive check of the new occlusion situation. For example, deviations in cranial direction during the measurement (compression) have diagnostic significance. These kinds of registrations are indications that the occlusion in the molar area is not bearing sufficient force.

Recording of functions

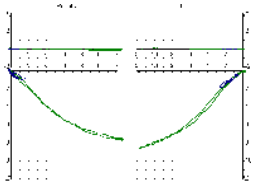


The following functions of the masticatory organ can be documented and evaluated using condylar track registration:

mastication, speech, clenching and bruxism, swallowing.

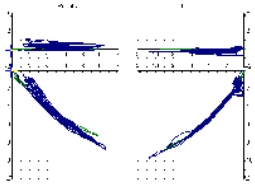
The relation of any movements to the border movements of the TMJ can be viewed and evaluated.

Speech



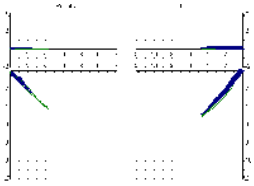
speech recordings document the phonetic function

Mastication



mastication: the very informative function of chewing

Bruxism



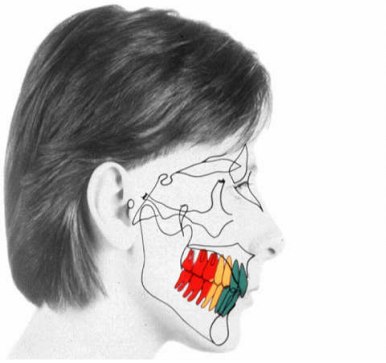
bruxism- a dominant function of the masticatory organ

"The Masticatory Organ": a fascinating book by Prof. Dr. R. Slavicek, full of experiences concerning the functions and dysfunctions of the masticatory organ,.

An important work, very helpful for understanding the possibilities of the GAMMA system. Highly instructional, richly illustrated, with 543 pages.

3-9501261-1-2	Book **„The Masticatory Organ"** by Prof. Dr. Rudolf Slavicek

CADIAS®



CADIAS is the central diagnosis- and planning module of the Gamma Dental Software®.

The program links information from the far X-Ray program with the articulator, condylography, and other diagnostic findings.

Cephalometric analysis - interdisciplinary diagnostics and planning

Cephalometric analyses are often wrongly considered to be relevant only for orthodontic diagnostics and treatment planning. However, these analyses are being accorded more and more significance in diagnostics and treatment strategies involved in comprehensive interdisciplinary dentistry. Considering the statistical distribution of skeletal classes in the overall population, it is evident that skeletal Class I is not the “norm”, but rather, at only 37%, represents a clear minority. The majority of skeletal relations follow a Class II principle. Because of the considerable compensatory mechanisms involved during dento-facial development, most of these cases still achieve normal dentition, or a close facsimile. Nevertheless, after completion of development, this results in a large number of malocclusions and dysgnathias.

Therefore, when planning treatment for complex reconstructions, it is extremely important to analyze the relation in each individual case, before taking therapeutic action. This applies first of all to treatment of non-dysfunctional patients, but even more so for patients with dysfunction. All of these patients benefit from a systematic diagnostic procedure with standardized data-acquisition and evaluation, appropriate to the complexities of the stomatognathic system.

CADIAS® offers:

- Statistical analyses, based on individual standards, taking into consideration the functional compensation mechanisms
- Dynamic analyses by including the articulator’s reference plane and therewith a link to clinical- and functional analysis (CADIAX®)
- Interactive case planning, with immediate feedback from all of the statistical and dynamic analyses

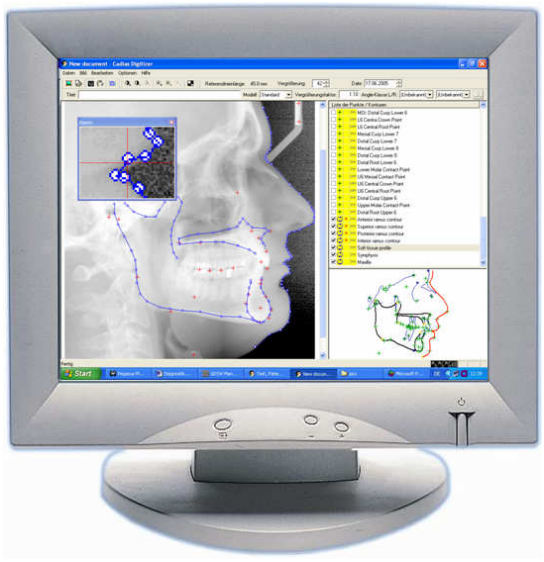
Point and contour input from the Ceph

Input is generally carried out directly on the computer screen. First, the X-Ray must be saved in the computer as a digital picture.

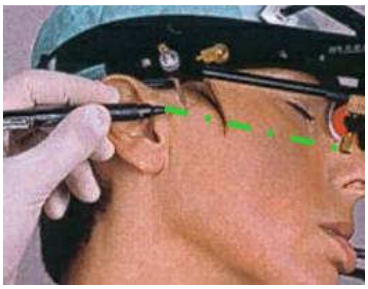
Alternatively, you can also use a conventional digitizer, which can communicate with the program through the standardized WinTab drive.

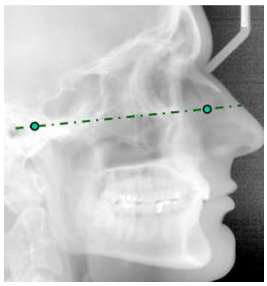
The program provides a list of points and contours, which should be entered one after another. Interactive help- and explanatory functions for the entries can be called up, if needed.

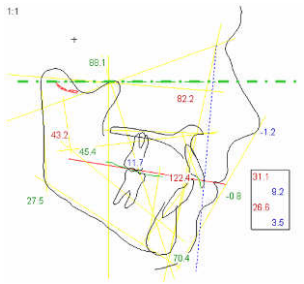
A Zoom window is permanently blended in to magnify the current cursor position and simplifies identification of points on the screen. Using standardized picture editing functions, you can modify important parameters, such as brightness, contrast, or magnification, adjusting them to your needs.



In general, the lateral X-Ray is created after the condylography. Before dismantling the bow (adjusted to the exact hinge axis), you must mark the position on the skin and make a small pencil-mark, so that the positions will be visible on the X-Ray. The anterior reference point (orbital) will be marked in the same way..

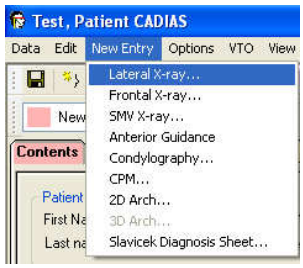






Further input in CADIAS®, which can be linked to the lateral X-Ray analysis:

- Frontal X-ray
- SMV X-ray
- Anterior guidance
- Condylography (CADIAX®)
- CPM (CADIAX®)
- Dental arch
- Diagnosis sheet, preliminary diagnostics



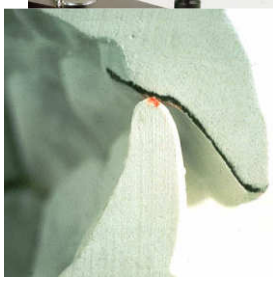
Frontal and SMV X-ray

These aspects are entered similarly to the lateral X-Rays, and extend the possibilities for analysis, especially with regard to symmetrical skeletal and dental aspects.

Anterior guidance

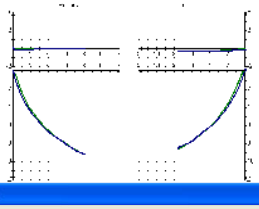
Input of the anterior guidance allows exact functional diagnostics of the incisors.

With the tooth shaper (06-231800), filled with hard silicone , an impression is made of the upper incisor, cut on the lingual concavity, and entered in the program.



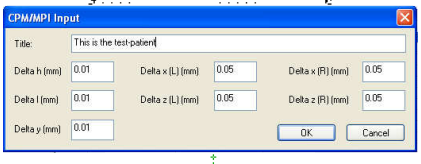
Condylography

The appropriate protrusion tracings are selected from the list of CADIAX® condylography registration data and, using Copy/Paste, entered into the CADIAS® program.



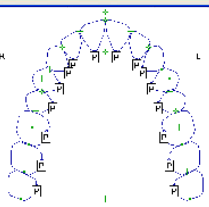
CPM

CPM is also input from CADIAX®, or by graphic registration, using an input form.

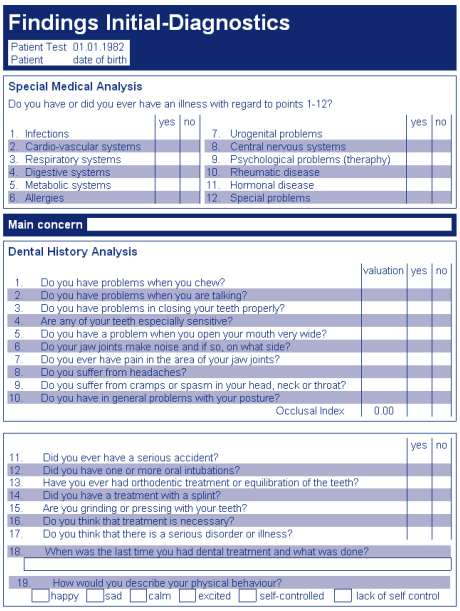


Tooth arch

To digitize the arch, the models are placed on a scanner, with occlusal surfaces facing down, and transferred as pictures to the computer.



Examination sheet- initial diagnostics



Findings Initial-Diagnostics

Patient Test 01.01.1982
Patient date of birth

Special Medical Analysis

Do you have or did you ever have an illness with regard to points 1-12?

	yes	no		yes	no
1. Infections			7. Urogenital problems		
2. Cardio-vascular systems			8. Central nervous systems		
3. Respiratory systems			9. Psychological problems (theraphy)		
4. Digestive systems			10. Rheumatic disease		
5. Metabolic systems			11. Hormonal disease		
6. Allergies			12. Special problems		

Main concern

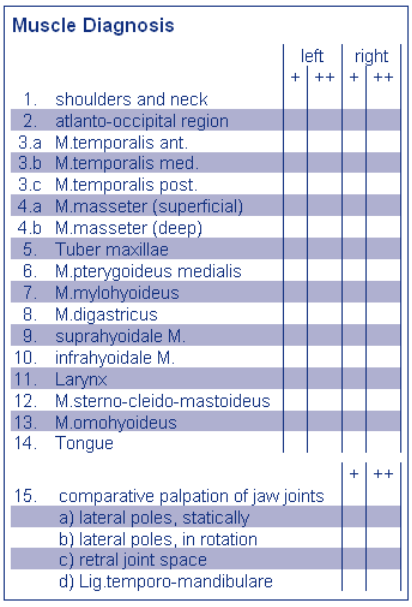
Dental History Analysis

	valuation	yes	no
1. Do you have problems when you chew?			
2. Do you have problems when you are talking?			
3. Do you have problems in closing your teeth properly?			
4. Are any of your teeth especially sensitive?			
5. Do you have a problem when you open your mouth very wide?			
6. Do your jaw joints make noise and if so, on what side?			
7. Do you ever have pain in the area of your jaw joints?			
8. Do you suffer from headaches?			
9. Do you suffer from cramps or spasm in your head, neck or throat?			
10. Do you have in general problems with your posture?			
Occlusal Index	0.00		

	yes	no
11. Did you ever have a serious accident?		
12. Did you have one or more oral intubations?		
13. Have you ever had orthodontic treatment or equilibration of the teeth?		
14. Did you have a treatment with a splint?		
15. Are you grinding or pressing with your teeth?		
16. Do you think that treatment is necessary?		
17. Do you think that there is a serious disorder or illness?		

18. When was the last time you had dental treatment and what was done?

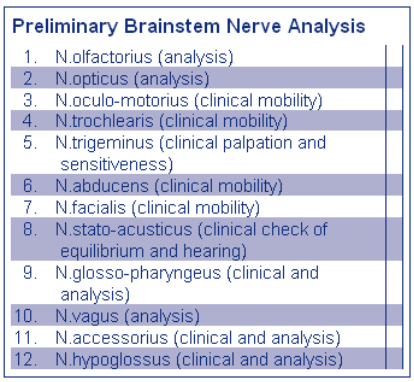
19. How would you describe your physical behaviour?
☐ happy ☐ sad ☐ calm ☐ excited ☐ self-controlled ☐ lack of self control



Muscle Diagnosis

	left +	left ++	right +	right ++
1. shoulders and neck				
2. atlanto-occipital region				
3.a M.temporalis ant.				
3.b M.temporalis med.				
3.c M.temporalis post.				
4.a M.masseter (superficial)				
4.b M.masseter (deep)				
5. Tuber maxillae				
6. M.pterygoideus medialis				
7. M.mylohyoideus				
8. M.digastricus				
9. suprahyoidale M.				
10. infrahyoidale M.				
11. Larynx				
12. M.sterno-cleido-mastoideus				
13. M.omohyoideus				
14. Tongue				

	+	++
15. comparative palpation of jaw joints		
a) lateral poles, statically		
b) lateral poles, in rotation		
c) retral joint space		
d) Lig.temporo-mandibulare		



Preliminary Brainstem Nerve Analysis

1. N.olfactorius (analysis)	
2. N.opticus (analysis)	
3. N.oculo-motorius (clinical mobility)	
4. N.trochlearis (clinical mobility)	
5. N.trigeminus (clinical palpation and sensitiveness)	
6. N.abducens (clinical mobility)	
7. N.facialis (clinical mobility)	
8. N.stato-acusticus (clinical check of equilibrium and hearing)	
9. N.glosso-pharyngeus (clinical and analysis)	
10. N.vagus (analysis)	
11. N.accessorius (clinical and analysis)	
12. N.hypoglossus (clinical and analysis)	

This easily clearly arranged form is designed to cover all of the questions in dental anamnesis. The user can process the form with the mouse or fill out the fields with the keyboard.

The occlusal index is calculated automatically, based on the input information:

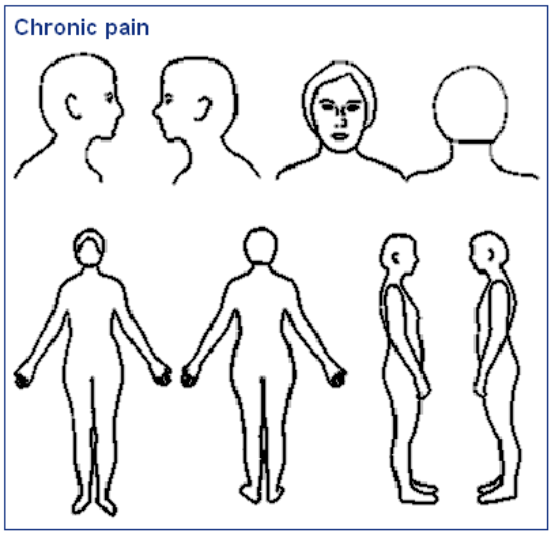
- The patient's main concern
- Special medical anamnesis
- Dental anamnesis
- Occlusal index

The occlusal index reflects the patient's own subjective feelings, regarding his/her complaints. A comparison of the subjective and objective situation is a key to evaluation.

Comparative muscle analysis is geared to an evaluation of the differences of the two sides. Palpation is carried out symmetrically, simultaneously and evenly while the patient is sitting comfortably. The patient indicates any differences between left and right, and indicates any possible pain in the palpated areas.

After the bilateral comparison, an evaluation of asymmetry can be made. This can offer insights into any possible disharmonious functional processes.

The examination sheet for chronic pain, tooth status and the possibility for including myofunctional problems, round out the program into a complete anamnesis package.

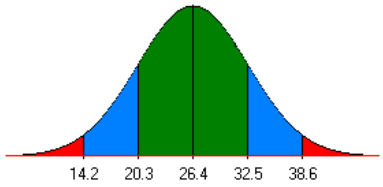


CADIAS® Analyses

Based on the input data, CADIAS provides a variety of static and dynamic analyses, which are generally offered as tracings and/or numerical lists from specific authors.

Norm calculations

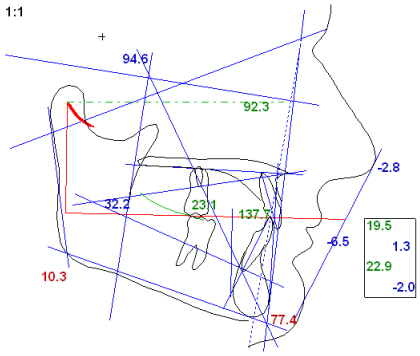
Most of the standards used in CADIAS have been calculated according to the patient's age and gender. Values lying within the 1st standard deviation are displayed in green; values lying between the 1st and 2nd standard deviation are displayed in blue; values lying outside the 2nd standard deviation are displayed in red.



System- and user defined analyses

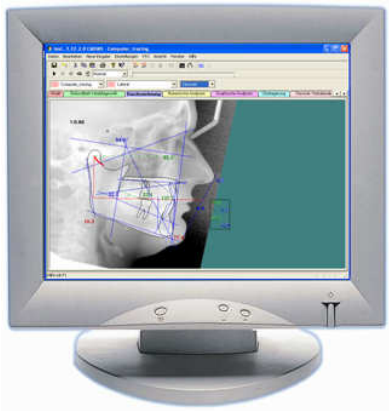
The program is equipped with a number of pre-defined points, values, numerical analyses and tracings. With all of these system settings, you will almost always find what you need.

However, if further individualization of the analyses is necessary, you can do this through the program, easily and without complications.



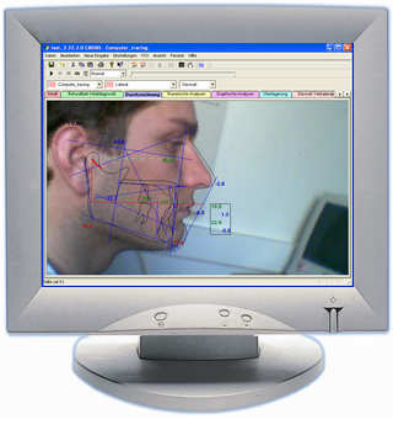
Tracings

The digitized X-Ray is displayed in tracings. The program shows the input contours, as well as the most important measuring planes and values.



The following author-specific tracings are included in the program's basic equipment:

- Slavicek
- Sato
- Ricketts
- Jarabak
- Sassouni
- Bergen
- Björg
- Steiner



In addition, it is possible to overlay a patient's scanned, lateral picture to the X-Ray tracing.

Numeric Analyses

These author-specific analyses give a list of values, which are generally sorted in chapters, thus offering a diagnostic overview, from a cephalometric point of view.

By simply clicking on any value, you will get an explanation of the value and the calculation of the trend.

Skeletal Measurement	Norm	Wert	Trend
Facial Axis	90.0 °	88.1	
Facial Depth	89.8 °	81.6	2-**
Mandibular Plane	23.3 °	26.8	1D*
Facial Taper	68.0 °	71.6	1B*
Mandibular Arc	30.8 °	40.6	3B***
Maxillary Position	65.0 °	62.2	1-*
Convexity	0.2 mm	3.6	1X*
Lower Facial Height (by R.Slavicek)	45.7 °	44.2	
Lower Facial Height to Point D	52.2 °	51.0	

extract of the skeletal measurement from the Slavicek analysis

Interactive Slavicek verbal analyses

In the Slavicek verbal analysis, values of individual problem groups are summarized and diagnostic statements formulated.

Click on any of these statements to arrive at an explanatory field, appearing under the list, which displays the determining- and interrelated values.

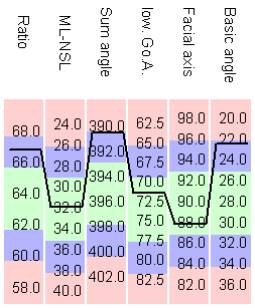
With this option, the program offers an excellent possibility for recognizing the interrelationships among individual values and for analyzing their evaluation.

The skeletal trend of the skull is dolichofacial
The skeletal trend of the mandible is extremely brachyfacial
Skeletal class is II with tends to I
The maxilla is positioned neutral, with tendency to retrognathic
The mandible is positioned strongly retrognathic
The lower facial height is normal
Dental class unknown
The protrusion of the upper incisor is diminished
The inclination of the upper incisor is extremely diminished (6.9°I)
The protrusion of the lower incisor is diminished
The inclination of the lower incisor is normal
The interincisal angle is increased
Occlusal concept: Canine dominan
No functional statement available

Graphical Analyses

In the graphical analyses, various areas of analysis are displayed in spreadsheets:

Skeletal relation, Compensation, Occlusal plane, Maxilla, Mandible, Lower face height, Growth type, Skeletal profile, Maxillo-mandibular position.



graphic analysis for growth type

Incisal pin table

This table allows the exact conversion of planned modifications of the vertical position in the articulator.

For example, with the index, modifications of cephalometric values planned in the VTO can be calculated to the height of the incisal pin. This means that you can exactly convert the planning on the X-Ray through the modified height of the articulator.

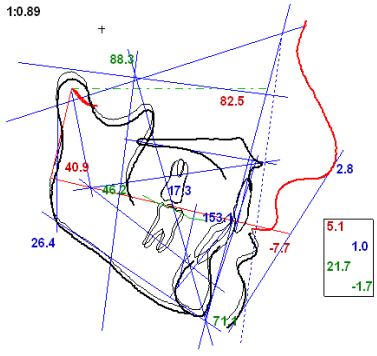
Incisal Pin Height	0.0	1.0	2.0	3.0	4.0	5.0	6.0	8.0	10.0	12.0	14.0	16.0	20.0
Lower Facial Height	44.2	44.6	45.0	45.5	45.9	46.3	46.7	47.5	48.2	49.0	49.7	50.4	51.7
LFH. (Norm)	45.7	45.8	45.9	46.1	46.2	46.3	46.4	46.6	46.8	47.0	47.2	47.4	47.8
LFH. (Variation)	-0.0	0.4	0.8	1.3	1.7	2.1	2.5	3.3	4.0	4.8	5.5	6.2	7.5
Menton Vertical	0.0	0.4	0.8	1.2	1.6	1.9	2.3	3.0	3.6	4.3	4.9	5.4	6.5
Pogonion Sagittal	0.0	-0.9	-1.8	-2.6	-3.5	-4.4	-5.3	-7.1	-8.9	-10.7	-12.5	-14.3	-17.9
Incision Inf. Vertical	0.0	0.5	1.1	1.6	2.1	2.6	3.1	4.0	5.0	5.9	6.7	7.6	9.2
Incision Inf. Sagittal	0.0	-0.6	-1.2	-1.8	-2.4	-3.0	-3.7	-4.9	-6.2	-7.5	-8.8	-10.2	-12.8

Incisal Pin Height	0.0	-1.0	-2.0	-3.0	-4.0	-5.0	-6.0	-8.0	-10.0	-12.0	-14.0	-16.0	-20.0
Lower Facial Height	44.2	43.7	43.3	42.8	42.3	41.9	41.4	40.4	39.3	38.2	37.1	35.9	33.4
LFH. (Norm)	45.7	45.6	45.5	45.4	45.3	45.2	45.1	44.9	44.7	44.4	44.2	44.0	43.5
LFH. (Variation)	-0.0	-0.5	-0.9	-1.4	-1.9	-2.3	-2.8	-3.8	-4.9	-6.0	-7.1	-8.3	-10.8
Menton Vertical	0.0	-0.4	-0.8	-1.3	-1.7	-2.2	-2.7	-3.7	-4.7	-5.8	-6.9	-8.2	-10.8
Pogonion Sagittal	0.0	0.9	1.7	2.6	3.5	4.3	5.2	6.9	8.6	10.2	11.8	13.4	16.4
Incision Inf. Vertical	0.0	-0.5	-1.1	-1.7	-2.2	-2.8	-3.4	-4.7	-5.9	-7.3	-8.6	-10.1	-13.1
Incision Inf. Sagittal	0.0	0.6	1.2	1.7	2.3	2.9	3.4	4.5	5.5	6.5	7.4	8.3	9.8

Overlay and comparison

Overlays and comparisons are useful in various areas. For instance, orthopedic or dental modifications directly planned on the screen can be displayed with overlays of the original situation.

Of course, comparisons of findings are also possible, before, between, during and after treatment.



overlay: planned modification of mandible position with recalculated soft tissue profile

Diagnostic evaluations using lateral far X-ray

Providing optical displays of the skull, uncovering dynamic interrelationships and offering the possibility of recognizing compensatory processes, X-Ray diagnostics often set a decisive copurse to treatment planning. However, placing too much emphasis on only one or several points should be avoided. When used in connection with the other findings, X-Ray diagnostics can make a meaningful contribution towards the final diagnosis.

Basically, cephalograms are analyzed according to the following aspects:

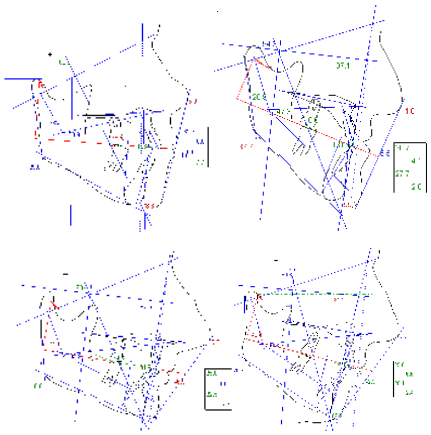
- Skeletal evaluation
- Vertical evaluation
- Occlusal plane evaluation
- Dental analysis
- Aesthetic evaluation
- Dynamic analysis
- Compensation mechanisms
- VTO

Skeletal evaluation

Mandibula and maxilla are evaluated separately, as skeletal units. After this basic classification, the principle of the architecture will be reclassified to an appropriate sub-group of facial patterns, based on the values at hand.

A significant aspect of skeletal diagnostics involves the position of the jaw, relative to the reference structures of the skull, as well as the relative relation of the lower jaw to the upper jaw.

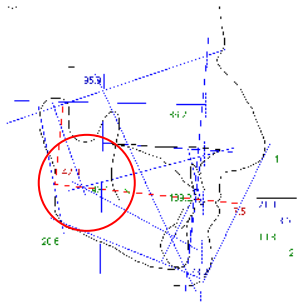
This individual preparation is so important, because all of the further analytical results can then be compared to the individualized values which correspond to the patient's skeletal pattern.



the "uniform face" does not exist; the variations in skeletal relations are manifold

Vertical evaluation

During growth, an individual distance develops between the upper and lower jaw: in individual cases, this vertical can be necessary as compensation for skeletal discrepancies. Therefore, this vertical assumes a special significance in diagnostics and treatment planning. This system classifies patients according to their skeletal principles. This is followed by the calculation of an individual vertical and a comparison with the current situation. This can supply valuable information for planning therapy. However, the "norm", as a principle of classification, should not be dogmatically set as the goal.

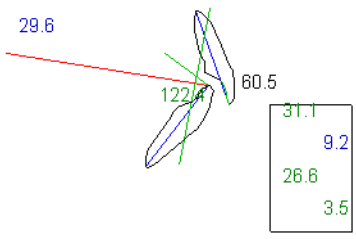


the individual lower face height as an important parameter for planning therapy

Dental analysis and occlusal plane evaluation

The anterior tooth situation and the occlusal plane, important for many functions, are decisive elements of the dental analysis.

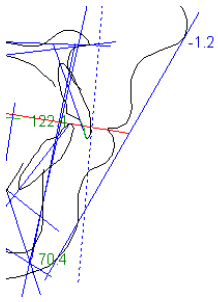
Here, it is very important to take into consideration the morphology of the lingual functional surfaces of the anterior teeth.



magnified display of the anterior tooth situation

First, the occlusal plane is evaluated statically. It is defined relative to the mandible and evaluated.

Aesthetic evaluation



In the lateral X-Rays, the soft tissues are displayed well, using soft-filtering. This allows you to evaluate the facial aesthetics, and also to make a quality evaluation of the circumoral structures. The tooth position within and relative to the lip structures is important for diagnosis and planning. The position of the upper- and lower lips in the facial profile can be evaluated in relation to aesthetic planes of reference.

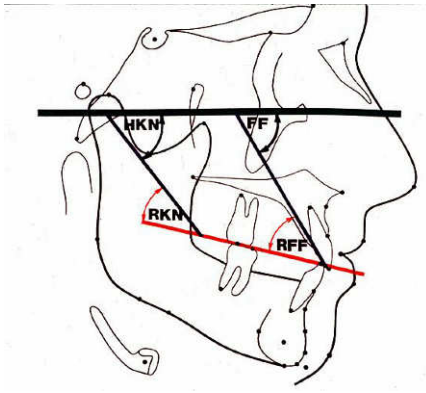
Dynamic analyses

A significant element of lateral X-Ray analysis is the dynamic examination of mandibular movement. This is achieved by transferring the recordings of hinge axis movement. With this supplement, it is possible to identify the functional determinants in their interrelationships and make a diagnostic evaluation.

The dynamic is defined through the relation of the sagittal condylar track inclination (SCI) to the occlusal plane and its inclination (OPI) as the *relative condylar track inclination* (RCI):

RCI = SCI – OPI

From this simple formula, an optimal inclination of the occlusal plane, adhering to functional aspects, can be planned easily, as a whole or for individual teeth.



schematic illustration of relative condylar track inclination and relative anterior guidance

Case planning with CADIAS® – VTO

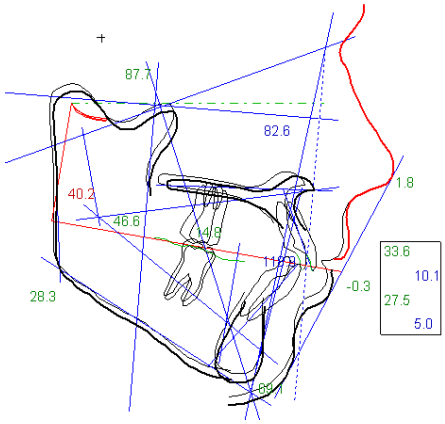
The program offers planning possibilities on the X-Ray display, which allow you to simulate important parameters and treatment steps on the computer screen. The following actions can be displayed:

- Modification of the vertical situation
- Orthopedic tooth movements (rotation and shifting)
- Orthopedic TMJ movements of the maxilla and mandibula
- Surgical treatment simulation
- Soft tissue simulation
- Mandibular positioning, using condylography data (CADIAX®)

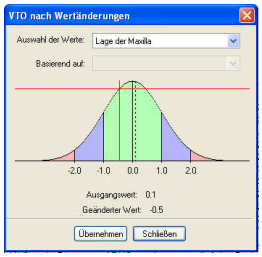
While using the application, you can make use of all static and dynamic analyses and call up a comparison of the planned situation with the original situation in index form or graphic.

Using the incisal table chart, you can transfer various planned parameters back to the articulator.

You can save as many plans as you like for each case. The program notes every planning step simultaneously, so you can create a detailed planning list and/or retract every step.



Skelettale Vermessung	Norm	Wert	Trend	Norm	Wert	Trend
Fazialachsenwinkel	90.0 °	87.7		90.0 °	88.1	
Fazialtiefe (Fazialebenewinkel)	88.4 °	82.6	1-*	88.4 °	82.2	2-**
Mandibularplanum (Unterkieferebenenw.)	24.5 °	28.3		24.5 °	27.5	
Kinnwinkel (Facial Taper)	68.0 °	69.1		68.0 °	70.4	
Collumwinkel (Unterkieferbogenwinkel)	27.5 °	40.2	3B***	27.5 °	43.2	3B***
Maxilläre Position	65.0 °	65.0		65.0 °	61.4	1-*
Konvexität (Punkt A)	1.0 mm	1.8		1.0 mm	-1.2	1V*
Untergesichtshöhe (Slavicek Norm)	46.1 °	46.6		45.9 °	45.4	
Untergesichtshöhe zu D	52.6 °	53.0		52.4 °	51.8	



The Masticatory Organ": a fascinating book by Prof. Dr. R. Slavicek, full of experiences concerning the functions and dysfunctions of the masticatory organ,. An important work, very helpful for understanding the possibilities of the GAMMA system. Highly instructional, richly illustrated, with 543 pages.

Available in English language!

3-9501261-1-2	**Book „The Masticatory Organ"** Prof. Dr. Rudolf Slavicek

GAMMA DENTAL®

5/1 Service, Maintenance & Training

6/2 Service, Maintenance & Training

Service, maintenance and training

Over the last several years, we at GAMMA have continuously built up our service and advisory team. Not least, because we are convinced, that being constantly at our customers' service and permanently "on call" with customer support is the best way to ensure successful application of the GAMMA system. In practical terms, this means service- and customer-oriented direction for proper application of our product. Above all, close contact to our customers also brings us important market feedback, which we use towards continuous product improvement and development.

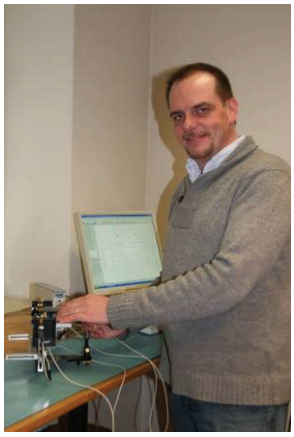
Through our international contacts, we always stay informed about the latest developments in the "functional" business, just as we ourselves make constant efforts to improve our systems and encourage innovation.

Customer service means:

- Direct contact to the customer
- Well-trained consultants for medical products
- Visits to the practice (throughout the German-speaking area)
- On site product introduction and service (Germany/Austria only)
- Advanced training sessions
- Close partnership with renowned Institutes and Universities
- Road Shows
- Participation at exhibitions

The GAMMA CADIAX® systems are medical measurement appliances of Product Class I. Legal regulations make it obligatory that our customers have these appliances checked at regular intervals for electrical safety and measurement function.

We regard it as our duty to offer this service to our customers on site. Our technicians are at your service for appointments.



05-001J	Adjustment for Reference SL articulator (device must be sent to the factory in Klosterneuburg – price excl. transport costs)
05-001	Annual CADIAX® on-site service, Germany/ Austria only (excl. expenses - see 05-001F), check flags/styli, function control, test printouts, adjustment of devices
05-002	Annual CADIAX® service – as 05-001002, but device to be sent to the factory in Klosterneuburg (price excluding transport costs)
05-001S	Installation and service - per hour, excluding expenses 05-001F
05-001T	Individual practical on-site training - excluding expenses 05-001F
05-001F	Staff and travel expenses by car for each km

6/3 Service, Maintenance & Training

Software maintenance

It is our duty to ensure that, with the Gamma Dental Software®, our customers receive a functionally reliable system at their disposal. We work constantly at improving and further developing the software, and creating new modules and functions.

Most GAMMA users appreciate to have regular supervision in product application as well as periodical training sessions, so that new staff has no problems in handling the software.

In addition to the normal telephone **Hotline**, we have a special service: **Software support online**. With this system, our software technicians can have direct access to the customer's computer. The customer can follow each of the technician's manipulations directly on the computer screen. This not only solves the software- or configuration problem quickly and easily, but also serves as an individual training session!

To take advantage of this service, you only need a standard DSL Internet access. Our technicians will then give you all further details. The connection set-up only takes a few minutes.

Immediately after concluding a software maintenance contract, the following company services are automatically at your disposal:

- Telephone information (or information via Fax or Email) for questions concerning the software.
- Information about update releases and announcements regarding new program versions, containing details of performance range
- Telephone information (or via fax, e-mail) about the usage of the program
- Telephone information about program interfaces of the software, in order to link individual modules of the software with other programs.
- Availability of the latest program version; this version will be sent on CD-ROM, including all of the corresponding documentation. The end user is responsible for setting up and running the new updates on the computer
- Free online software maintenance

Naturally, we cannot provide all of these services at no cost. Therefore, we offer a system calculated on the modules, that represents the graded maintenance costs, according to the software version being used:

Software maintenance for Gamma Dental Software®		per month
05-00E00C	Version „C“	
05-00E0CW	Version „CW“	
05-00E00S	Version „S“	
05-00E0AM	Version „AM“	

6/4 Service, Maintenance & Training

CDs FOR INSTRUCTION & PRACTICAL USE:

04-000020	Multimedia course Wax-Up DVD “Class I Occlusion” Prof. Slavicek and team ISBN 978-3-9501261-3-6	
04-000021	Multimedia course Wax-up DVD “Class II, III, Cross Bite”, Prof. Slavicek and team ISBN 978-3-9501261-4-3	
04-000018	Wax-Up base models (upper/lower) for Multimedia Wax-Up Course (please inquire for availability) *For Reference SL mounting, incl. distance blocks and mounting plates, pinned lower dental cast*	
04-002015	RRzF instruction CD*, “Reference SL”	
04-003015	RRzF instruction CD*, “CADIAX® *compact 2"*	
	*available in German language only!	

Training and further education

Training and further education are important factors in successfully integrating a functional dentistry.

We maintain close cooperation with renowned training academies and universities, and our own well trained team of advisors is being expanded along strict selection criteria. We want to provide you with reliable contact partners, who will be at your service in “word and deed”.

For information about the latest course program and the partner training institutes who offer seminars, courses and university courses, using our system, please request from or visit below mentioned contacts:

VieSID
Vienna School of Interdisciplinary Dentistry

ph: +43 (2243) 21962

Internet: www.viesid.com
e-mail: info@viesid.com

O R D E R F O R M

to: GAMMA Medizinisch-wissenschaftliche Fortbildungs-GmbH
Josef Brenner Strasse 10
3400 Klosterneuburg - Österreich
Tel.: +43 (0)2243 34140-0
Fax.: +43 (0)2243 34140-90
Email: office@gammadental.com **VAT-ID-No.:** ATU37002505

Customer: _____ **Customer-No.**: _____

_____ **VAT-ID-No.**: _____

_____

_____

Pos	Article-No.	Product description	Quantity	Price (EUR)

Desired delivery date:

TOTAL

plus statutory tax and shipment

Unless otherwise stated, prices for installation and training are not included

Notes:

This is a legally effective contract between you as customer and GAMMA Medizinisch-wissenschaftliche Fortbildungs-GmbH. The valid general terms and conditions are part of this contract and are explicitly accepted by the customer. You can find the general terms and conditions listed on the back-side of this form, on our homepage (www.gammadental.com) or ask for the terms at any time in our office. Gamma Medizinisch-wissenschaftliche Fortbildungs-GmbH reserves the right to reject the order within a period of 30 days after the order form was signed.

_____ _____

For GAMMA Date/Signature

For the customer Date/Signature

General business conditions of GAMMA Medizinisch-wissenschaftliche Fortbildungs-GmbH (GAMMA) Josef-Brenner Strasse 10, A-3400 Klosterneuburg – AUSTRIA

In principle, the contractual parties undertake to display mutual loyalty. GAMMA requires that its co-workers comply with the provisions of the data protection laws.

If any individual conditions of this contract are, or should become void or inoperative, this will not affect the remaining contents of this contract. The parties will work together as partners towards an arrangement which approaches the sense of the inoperative provision as nearly as possible.

1 Tending an offer and conferring of contract

1.1 A contract is effected exclusively by means of written confirmation or upon delivery of goods by GAMMA.

1.2 Collateral agreements, changes and amendments of this contract require the written confirmation of the contractual partners in order to be valid. The same applies for any guarantees regarding features, as well as for any waivers regarding the requirement for written confirmation.

1.3 Quotations are, in principle, subject to change without prior notice.

2 Terms of payment, prices, taxes and charges

2.1 Prices are valid ex-warehouse Klosterneuburg, Austria, exclusive of all incidental costs as well as of the statutory Value Added Tax and, unless specifically noted otherwise, are given in Euros. Prices are valid only for the order on hand.

2.2 In case of failure to meet the term of payment, the client is obliged to pay the customary bank interest charges on the buying price.

3 Right of detention, compensation, cession

3.1 The client may not refuse to meet his/her obligations on the basis of any possible counter-claims, nor may the client withhold payment or make pretension to compensation for costs that may be incurred, unless the grounds and the extent of these claims are undisputed by GAMMA, or are legally established and binding.

3.2 Cession of a client's claims against GAMMA is only possible with the express permission of same.

4 Delivery date, Term of delivery

4.1 The delivery date begins when the client receives the confirmation of order from GAMMA.

4.2 The term of delivery is complied with if, before its expiry, the product has left the GAMMA warehouse in Klosterneuburg, Austria (shipping date or postmark), or when written notice is given that the product is ready to be shipped.

4.3 The term of delivery will be extended as necessary in cases of labor disputes, in particular strikes and lock-outs, or in case of unforeseen hindrances, which are beyond the control of GAMMA, insofar as these hindrances can be demonstrated to have a considerable influence on the production or delivery of the product. This also applies to the sub-contractor, if such problems should materialize. Even if the aforementioned circumstances occur at a time when there is already a delay, no claims may be made on GAMMA. Any agreed-upon contractual penalty is invalid under these circumstances.

4.4 The prerequisite for compliance with the term of delivery is that the client fulfills all contractual obligations.

5 Devolution of risk and receipt (of goods), compulsory inspection and compulsory complaint, acceptance

5.1 Risk is transferred to the client, at the latest, with the dispatch of the shipment, even in the case of a part-delivery, or when GAMMA has undertaken to perform other services. Redeliveries are carried out at the risk of the client.

5.2 Part-deliveries are permissible, § 8.1 takes priority.

5.3 If the client is a qualified merchant, he/she is required to inspect the goods immediately and to inform GAMMA, in writing, within 10 days at the latest, of any substantiated defects or deficiencies, i.e., wrong goods or wrong quantities. After the expiration of this term, the product is considered to be accepted. In cases of "hidden" defects, the client (qualified merchant) bears the burden of proof.

5.4. In case of defects on deliveries, caused during transport, the carrier has to be informed immediately at time of takeover

5.5 Acceptance can only be refused in case of considerable defects or deficiencies.

6 Proprietary rights

6.1 GAMMA retains proprietary rights to the product until all of the obligations of the business transaction (including future business arrangements) have been settled (including all balance payments due from account current).

6.2 The client may only utilize the product in the normal course of business, and confers upon GAMMA the joint-ownership of any new product resulting from the connection or combination of the GAMMA product with any other products. Upon disposal (sale), the client will transfer to GAMMA, in advance, for security reasons, the sum of the invoiced amount of its purchase price, in accordance with the joint-ownership agreement. The transfer will be accepted by GAMMA.

6.3 In case of breach of contract on the part of the client, especially in cases of default of payment, GAMMA has the right to reclaim the product(s), after a default reminder, and the client is obliged to return the product(s).

7 Liability for wrong goods and/or wrong quantities

7.1 In principle, GAMMA is liable for damages, insofar as gross negligence or intent can be demonstrated on its part, within the scope of legal provisions. Liability for simple negligence is precluded. As far as legally allowed, compensation is precluded, in any case, for consequential damages and property damages, non-attained savings, loss of interest fees, and damages from claims of a third party against GAMMA. GAMMA assumes liability for defects and/or deficiencies in the shipment, including the absence of features which are explicitly guaranteed, to the exclusion of further claims, notwithstanding § 8, as follows, if the shipment is not considered to be accepted, in accordance with § 5.3: all of these parts are to be repaired, free of charge, or replaced with new ones, if they display defects and/or deficiencies which can be attributed to GAMMA, within 2 years of delivery on movable parts, within 3 years of delivery for non-movable parts, and if GAMMA has received written notification of these defects and/or deficiencies. All replacements remain the property of GAMMA.

7.2 After a written complaint to GAMMA AG of wrong goods and/or wrong quantities, the client is obliged to allow GAMMA the opportunity to carry out any and all repairs and/or shipments of replacements, which it may deem necessary, according to its judgment and responsibility; otherwise, GAMMA is free from any liability. Only in extreme circumstances, involving a threat to the operational security and to prevent excessive or disproportionately greater damage, whereby GAMMA must be informed immediately, or if GAMMA is delayed in repairing a defect, does the client have the right to repair a defect himself/herself, or to have a defect repaired by a third party. In this case, the client may demand reimbursement from GAMMA, for the necessary costs incurred.

7.3 GAMMA assumes the immediate costs for the repairs and/or delivery of replacements- insofar as the complaint proves to be valid- the costs of the replacement items, including shipment charges, and reasonable costs for dismounting and installation; further, according to individual circumstances, the costs which may actually be necessary for engaging assemblers and assistants. Any other costs are borne by the client.

7.4 The term of liability for the replacement is 3 months, but this term must extend to at least the expiry date of the original shipment's term of liability. The term of liability for wrong goods and/or wrong quantities will be extended for the amount of time of interrupted operation, necessitated by the repairs.

7.5 GAMMA bears no liability for the consequences of any possible inappropriate alterations or repair work, carried out by the client or a third party, without previous, express authorization from GAMMA.

8 The client's right of rescission and other liability of GAMMA

8.1 The client can rescind the contract, if it is clearly impossible for GAMMA to provide complete service, prior to the devolution of risk. The same is true for incapability on the part of GAMMA. The client can also rescind the contract if, after placing an order for products of the same type, it is finally impossible for GAMMA to deliver the required number of part of the shipment, and the client has a legitimate interest in refusing part-delivery; if this is not the case, the client may proportionately reduce the amount of his/her obligation.

8.2 If this impossibility arises during an already existent delay in acceptance or through the encumbrance of debt on the part of the client, the client remains under the obligation to pay.

8.3 The client has the right of rescission, if GAMMA, in the absence of mitigating circumstances, allows the expiration of two appropriately set term-extensions for repairs or the delivery of replacements, relative to wrong goods or wrong quantities attributable to GAMMA, in accordance with the conditions of delivery. The client is obliged to allow two attempts at repairs. The client's right of rescission is also valid in other instances involving two unsuccessful attempts at repair or delivery of replacements on the part of GAMMA.

8.4 All further client claims are precluded, especially regarding conversion, price-reductions and compensation for damages of any kind, including those damages not arising on the product itself. This preclusion of liability is not valid in cases of malicious intent or gross negligence on the part of the proprietor or managerial employee, or in those cases in which liability for defects and/or deficiencies in the product is assumed for personal injury and material damages on units in private use. This preclusion also does not apply to missing features, which are explicitly guaranteed, if the express purpose of said guarantee is to protect the user against damages, not arising on the product itself.

9 Copyright protection

9.1 Designs, models, software, tools, programs, documentations and the like, from GAMMA, are the intellectual property of GAMMA and, although no specific protection exists, they may not be copied by the client or used in any way for reproduction, nor may they be ceded to a third party, neither free of charge nor for remuneration, nor used in any manner other than within the scope of the conditions agreed upon by GAMMA and the client.

9.2 In the case of orders, according to the client's own specifications (drawings, designs, etc.) the client assumes liability. In this way, the patent rights will not be infringed upon.

10 Installation

10.1 If installation of the product is agreed upon in writing, GAMMA will install the product for the client, in a state of operational readiness. The following constitute the prerequisites for installation:

a. the client has, and makes available, an appropriate location for the apparatus, including all of the proper connections (water, electricity, etc.).

b. the apparatus may not have been altered by the client before installation.

10.2 The installed product is considered to be in operational readiness after being subjected successfully to the GAMMA functional testing process, and witnessed to by the client's counter-signature on the certificate of acceptance. If the client does not sign the certificate of acceptance, despite a successful functional test, GAMMA will instruct the client as to the consequences of exceeding the acceptance deadline and will offer an extension of at least two weeks: if the client does not offer an explanation before expiry of this extended term, operational readiness is assumed as certified nevertheless, with the date of the functional test.

10.3 If, after delivery, the agreed-upon installation of the product cannot be effected by GAMMA, for reasons attributable to the client, GAMMA AG will instruct the client as to the consequences of exceeding the deadline and offer the client a deadline of 30 days; if the installation has still not been carried out upon expiry of this term, also for reasons attributable to the client, operational readiness is considered as certified from the date of delivery.

10.4 GAMMA assumes no obligations for connecting the product to any apparatus or appliance belonging to the client, which has not been supplied by GAMMA.

11 Concluding stipulations

Unless otherwise agreed to, the applicable legal provisions in effect between qualified merchants are exclusively according to Austrian law, also when the contract is carried out in another country. The territorial jurisdiction of the relevant court for the registered seat of the GAMMA is the exclusive authority, in case of possible disputes and/or litigation. The above-mentioned conditions are applicable to consumer sales, within the intent of the consumer protection laws, only insofar as the consumer protection laws do not specifically make other provisions.

O R D E R F O R M

to: GAMMA Medizinisch-wissenschaftliche Fortbildungs-GmbH
Josef Brenner Strasse 10
3400 Klosterneuburg - Österreich
Tel.: +43 (0)2243 34140-0
Fax.: +43 (0)2243 34140-90
Email: office@gammadental.com **VAT-ID-No.:** ATU37002505

Customer: _____ **Customer-No.**: _____

_____ **VAT-ID-No.**: _____

_____

_____

Pos	Article-No.	Product description	Quantity	Price (EUR)

Desired delivery date:

TOTAL

plus statutory tax and shipment

Unless otherwise stated, prices for installation and training are not included

Notes:

This is a legally effective contract between you as customer and GAMMA Medizinisch-wissenschaftliche Fortbildungs-GmbH. The valid general terms and conditions are part of this contract and are explicitly accepted by the customer. You can find the general terms and conditions listed on the back-side of this form, on our homepage (www.gammadental.com) or ask for the terms at any time in our office. Gamma Medizinisch-wissenschaftliche Fortbildungs-GmbH reserves the right to reject the order within a period of 30 days after the order form was signed.

_____ _____

For GAMMA Date/Signature

For the customer Date/Signature

General business conditions of GAMMA Medizinisch-wissenschaftliche Fortbildungs-GmbH (GAMMA) Josef-Brenner Strasse 10, A-3400 Klosterneuburg – AUSTRIA

In principle, the contractual parties undertake to display mutual loyalty. GAMMA requires that its co-workers comply with the provisions of the data protection laws.

If any individual conditions of this contract are, or should become void or inoperative, this will not affect the remaining contents of this contract. The parties will work together as partners towards an arrangement which approaches the sense of the inoperative provision as nearly as possible.

1 Tending an offer and conferring of contract

1.1 A contract is effected exclusively by means of written confirmation or upon delivery of goods by GAMMA.

1.2 Collateral agreements, changes and amendments of this contract require the written confirmation of the contractual partners in order to be valid. The same applies for any guarantees regarding features, as well as for any waivers regarding the requirement for written confirmation.

1.3 Quotations are, in principle, subject to change without prior notice.

2 Terms of payment, prices, taxes and charges

2.1 Prices are valid ex-warehouse Klosterneuburg, Austria, exclusive of all incidental costs as well as of the statutory Value Added Tax and, unless specifically noted otherwise, are given in Euros. Prices are valid only for the order on hand.

2.2 In case of failure to meet the term of payment, the client is obliged to pay the customary bank interest charges on the buying price.

3 Right of detention, compensation, cession

3.1 The client may not refuse to meet his/her obligations on the basis of any possible counter-claims, nor may the client withhold payment or make pretension to compensation for costs that may be incurred, unless the grounds and the extent of these claims are undisputed by GAMMA, or are legally established and binding.

3.2 Cession of a client's claims against GAMMA is only possible with the express permission of same.

4 Delivery date, Term of delivery

4.1 The delivery date begins when the client receives the confirmation of order from GAMMA.

4.2 The term of delivery is complied with if, before its expiry, the product has left the GAMMA warehouse in Klosterneuburg, Austria (shipping date or postmark), or when written notice is given that the product is ready to be shipped.

4.3 The term of delivery will be extended as necessary in cases of labor disputes, in particular strikes and lock-outs, or in case of unforeseen hindrances, which are beyond the control of GAMMA, insofar as these hindrances can be demonstrated to have a considerable influence on the production or delivery of the product. This also applies to the sub-contractor, if such problems should materialize. Even if the aforementioned circumstances occur at a time when there is already a delay, no claims may be made on GAMMA. Any agreed-upon contractual penalty is invalid under these circumstances.

4.4 The prerequisite for compliance with the term of delivery is that the client fulfills all contractual obligations.

5 Devolution of risk and receipt (of goods), compulsory inspection and compulsory complaint, acceptance

5.1 Risk is transferred to the client, at the latest, with the dispatch of the shipment, even in the case of a part-delivery, or when GAMMA has undertaken to perform other services. Redeliveries are carried out at the risk of the client.

5.2 Part-deliveries are permissible, § 8.1 takes priority.

5.3 If the client is a qualified merchant, he/she is required to inspect the goods immediately and to inform GAMMA, in writing, within 10 days at the latest, of any substantiated defects or deficiencies, i.e., wrong goods or wrong quantities. After the expiration of this term, the product is considered to be accepted. In cases of "hidden" defects, the client (qualified merchant) bears the burden of proof.

5.4. In case of defects on deliveries, caused during transport, the carrier has to be informed immediately at time of takeover

5.5 Acceptance can only be refused in case of considerable defects or deficiencies.

6 Proprietary rights

6.1 GAMMA retains proprietary rights to the product until all of the obligations of the business transaction (including future business arrangements) have been settled (including all balance payments due from account current).

6.2 The client may only utilize the product in the normal course of business, and confers upon GAMMA the joint-ownership of any new product resulting from the connection or combination of the GAMMA product with any other products. Upon disposal (sale), the client will transfer to GAMMA, in advance, for security reasons, the sum of the invoiced amount of its purchase price, in accordance with the joint-ownership agreement. The transfer will be accepted by GAMMA.

6.3 In case of breach of contract on the part of the client, especially in cases of default of payment, GAMMA has the right to reclaim the product(s), after a default reminder, and the client is obliged to return the product(s).

7 Liability for wrong goods and/or wrong quantities

7.1 In principle, GAMMA is liable for damages, insofar as gross negligence or intent can be demonstrated on its part, within the scope of legal provisions. Liability for simple negligence is precluded. As far as legally allowed, compensation is precluded, in any case, for consequential damages and property damages, non-attained savings, loss of interest fees, and damages from claims of a third party against GAMMA. GAMMA assumes liability for defects and/or deficiencies in the shipment, including the absence of features which are explicitly guaranteed, to the exclusion of further claims, notwithstanding § 8, as follows, if the shipment is not considered to be accepted, in accordance with § 5.3: all of these parts are to be repaired, free of charge, or replaced with new ones, if they display defects and/or deficiencies which can be attributed to GAMMA, within 2 years of delivery on movable parts, within 3 years of delivery for non-movable parts, and if GAMMA has received written notification of these defects and/or deficiencies. All replacements remain the property of GAMMA.

7.2 After a written complaint to GAMMA AG of wrong goods and/or wrong quantities, the client is obliged to allow GAMMA the opportunity to carry out any and all repairs and/or shipments of replacements, which it may deem necessary, according to its judgment and responsibility; otherwise, GAMMA is free from any liability. Only in extreme circumstances, involving a threat to the operational security and to prevent excessive or disproportionately greater damage, whereby GAMMA must be informed immediately, or if GAMMA is delayed in repairing a defect, does the client have the right to repair a defect himself/herself, or to have a defect repaired by a third party. In this case, the client may demand reimbursement from GAMMA, for the necessary costs incurred.

7.3 GAMMA assumes the immediate costs for the repairs and/or delivery of replacements- insofar as the complaint proves to be valid- the costs of the replacement items, including shipment charges, and reasonable costs for dismounting and installation; further, according to individual circumstances, the costs which may actually be necessary for engaging assemblers and assistants. Any other costs are borne by the client.

7.4 The term of liability for the replacement is 3 months, but this term must extend to at least the expiry date of the original shipment's term of liability. The term of liability for wrong goods and/or wrong quantities will be extended for the amount of time of interrupted operation, necessitated by the repairs.

7.5 GAMMA bears no liability for the consequences of any possible inappropriate alterations or repair work, carried out by the client or a third party, without previous, express authorization from GAMMA.

8 The client's right of rescission and other liability of GAMMA

8.1 The client can rescind the contract, if it is clearly impossible for GAMMA to provide complete service, prior to the devolution of risk. The same is true for incapability on the part of GAMMA. The client can also rescind the contract if, after placing an order for products of the same type, it is finally impossible for GAMMA to deliver the required number of part of the shipment, and the client has a legitimate interest in refusing part-delivery; if this is not the case, the client may proportionately reduce the amount of his/her obligation.

8.2 If this impossibility arises during an already existent delay in acceptance or through the encumbrance of debt on the part of the client, the client remains under the obligation to pay.

8.3 The client has the right of rescission, if GAMMA, in the absence of mitigating circumstances, allows the expiration of two appropriately set term-extensions for repairs or the delivery of replacements, relative to wrong goods or wrong quantities attributable to GAMMA, in accordance with the conditions of delivery. The client is obliged to allow two attempts at repairs. The client's right of rescission is also valid in other instances involving two unsuccessful attempts at repair or delivery of replacements on the part of GAMMA.

8.4 All further client claims are precluded, especially regarding conversion, price-reductions and compensation for damages of any kind, including those damages not arising on the product itself. This preclusion of liability is not valid in cases of malicious intent or gross negligence on the part of the proprietor or managerial employee, or in those cases in which liability for defects and/or deficiencies in the product is assumed for personal injury and material damages on units in private use. This preclusion also does not apply to missing features, which are explicitly guaranteed, if the express purpose of said guarantee is to protect the user against damages, not arising on the product itself.

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b. the apparatus may not have been altered by the client before installation.

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10.3 If, after delivery, the agreed-upon installation of the product cannot be effected by GAMMA, for reasons attributable to the client, GAMMA AG will instruct the client as to the consequences of exceeding the deadline and offer the client a deadline of 30 days; if the installation has still not been carried out upon expiry of this term, also for reasons attributable to the client, operational readiness is considered as certified from the date of delivery.

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11 Concluding stipulations

Unless otherwise agreed to, the applicable legal provisions in effect between qualified merchants are exclusively according to Austrian law, also when the contract is carried out in another country. The territorial jurisdiction of the relevant court for the registered seat of the GAMMA is the exclusive authority, in case of possible disputes and/or litigation. The above-mentioned conditions are applicable to consumer sales, within the intent of the consumer protection laws, only insofar as the consumer protection laws do not specifically make other provisions.

MAINTENANCE CONTRACT
for GAMMA Dental Software®

☐ GDSW „AM“ ☐ GDSW „S“ ☐ GDSW „CW“ ☐ GDSW „C“ ☐ GDB

(cross the appropriate version/option)

This is a contract between the user of the software and GAMMA MEDIZINISCH-WISSENSCHAFTLICHE FORTBILDUNGS-GmbH, a company formed under the laws of the Republic of Austria. (GAMMA)

Terms of contract

1. Contents of the contract: GAMMA provides maintenance for the product **GAMMA Dental Software**, hereafter named “software” for supporting operating systems, under the following conditions:

2. Duration and cancellation of contract: The contract is concluded for an unspecified period of time, with a minimum duration of the contract of ☐ 12 months/ ☐ 24 months/ ☐ 36 months and may be terminated by either party, subject to 3 month’s notice, until the end of the calendar year. Cancellation on special grounds (i.e., death, forced retirement for health reasons) is possible at any time. In this case, an aliquot part of the annual fee will be reimbursed to the end user, commensurate with the portion of unused service.

3. Scope of performance: Upon receipt of the fees stated in item 4, GAMMA will provide the following services:

a.) Telephone information (or via fax or e-mail) in response to questions concerning software problems; Monday-Friday, 9 AM- 4 PM (excluding public or annual holidays). The call should be made by the end user or an authorized representative.

b.) Information about update releases and announcements regarding new program versions through releases containing details of performance range.

c.) Information (via phone, fax or email) in response to questions concerning the software respectively program interfaces of the software, in order to link individual modules of the software with other programs: Monday-Friday, 9 am- 4 pm (excluding public or annual holidays). The call should be made by the end user or an authorized representative.

d.) Availability of the latest program version. This version will be sent on CD-ROM; including all of the corresponding documentation. The new version replaces the directly preceding version with the same serial number. All conditions of the license contract remain valid. The end user is responsible for setting up and running the program updates on the computer.

e.) Provide free online software maintenance at no extra cost. Any information given does not make up for user training, but are based on the knowledge level of an experienced user.

4. Fees and conditions of payment:

maintenance fee	per month	per year
GDSW "AM“		
GDSW "S"		
GDSW "CW"		
GDSW "C"		
GDB		
Additional work stations		
Number of required work stations		

The yearly maintenance fee is charged in advance at the beginning of the calendar year of proportionally at validity of the contract. Payments of the invoices are due within 8 days, without deductions. These prices do not include sales taxes. Any legally applicable taxes will be included in the bill. The maintenance costs are to correspond with changes in the consumer index of the Austrian Central Bureau of Statistics. The index is calculated by comparing the indexes of the beginning and end of the calendar year, or part of the year, respectively. The change will be set as the calculation basis for the following year.

5. Terms of Use: The customer is obliged to use the software exclusively for his own office. Passing on of software to third parties is not permitted.

6. License extension: If the customer receives an extended license of the software (e.g., by buying an upgrade from GDSW “CW” to “AM”), the contract becomes automatically extended and adjusted to the new software version. This applies especially to the maintenance fees, described in item 4, which will be increased accordingly.

7. Written form: Collateral agreements, changes and amendments of this contract require the written confirmation of the contractual partners in order to be valid. The same applies for any waivers regarding the requirement for written confirmation.

8. Costs: The purchaser bears all costs, expenses, taxes and fees incurred, relative to the construction and implementation of this contract.

9. Miscellaneous: If any individual conditions of this contract are, or should become void or inoperative, this will not affect the validity of the remaining provisions. Any invalid provision will be replaced by such valid provision which corresponds most closely to the sense of the provision in question.

10. Copyright: Software, handbooks and other accompanying written materials are intellectual property of GAMMA and protected against copying through copyright laws, international treaty provisions and other national laws.

11. Legal jurisdiction: This contract and all parts thereof are governed by Austrian law. The parties agree that all legal disputes arising from this contract shall be settled by the Austrian court having subject-matter jurisdiction.

12. Liability: GAMMA is liable for damages, only insofar as gross negligence or malicious intent can be demonstrated on its part. Liability for simple negligence is precluded. In no event shall GAMMA be liable for any special, incidental or consequential damages, including loss of sales, loss of profits, non-attained savings, loss of interest fees, or for damage claims of a third party against the end user.

GAMMA Medizinisch-wissenschaftliche Fortbildungs-GmbH
Josef Brenner Strasse 10
3400 Klosterneuburg
Österreich

Name and address of the user

Date and Signature

Date and Signature

notes:

Tel.: +43/2243/34140-0,
www.gammmadental.com
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GAMMA DENTAL®

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